```
1  // can2 batch for speech processing
2  //
3  // Do "make" first
4  //
5  #######
6  #20210615
7  #######
8  #(1.0.2)パワー正規化->SPTKライブラリのために short ファイル作成
9
10  #for_kuro_only##(1.0.1) リンク作成
11  #for_kuro_only#####
12  #for_kuro_only##ln -s /media/sf_D_DRIVE/data/12voicedata_ueki ~/sotu/2012/12voicedata_ueki #shigeta only
13  #for_kuro_only##ln -s /media/sf_C_DRIVE/cdata/kurolab/data/12voicedata ~/sotu/2012/12voicedata_ueki
#kurogi only
14  #for_kuro_only#d0=/media/sf_home_kuro/kuro/data/12voicedata_ueki/
15  #for_kuro_only#d1=~/../12voicedata_ueki_all; mkdir -p $d1
16  #for_kuro_only#dl=~/../12voicedata_ueki_all;
17  #for_kuro_only#for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
18  #for_kuro_only#  ln -s ${d0}/${d}/* ${d1}/
19  #for_kuro_only#done
20  #for_kuro_only#
21  #for_kuro_only###(1.0.2)パワー正規化->SPTKライブラリのために short ファイル
22  #for_kuro_only##copy and past from here for s102
23  #for_kuro_only#d0=~/sotu/2012/12voicedata_ueki;
24  #for_kuro_only#dl=~/../12voicedata_ueki_all;
25  #for_kuro_only#export yth=0.05 #y|t)>=yth*yMax is used for normalization by rms
   y short data
26  #for_kuro_only#export fmt='h' ext='sht' #'h' for 2byte short
27  #for_kuro_only#export fmt='f' ext='flt' #'h' for 4byte  float
28  #for_kuro_only#export nrm=l ds=${d1}_${fmt}l; mkdir -p ${ds} #save normalized speech signal as binar
   y short data
29  #for_kuro_only#export nrm=m ds=${d1}_${fmt}m; mkdir -p ${ds} #save normalized speech signal as binar
   y short data
30  #for_kuro_only#export nrm=r ds=${d1}_${fmt}r; mkdir -p ${ds} #save normalized speech signal as binar
   y short data
31  #for_kuro_only#export log=$ds/i2bs.log
32  #for_kuro_only#emacs $log& #check no.1 of  log
33  #for_kuro_only#echo "#binary conversion for fmt=$fmt nrm=$nrm" > $log
34  #for_kuro_only#echo "ymin=$ymin" > $log
35  #for_kuro_only#export L=1:2:3:4:5:6:7:8:9:10 nf=$((7*10*10-2)) fnerr=nmmt-san2:fhs-hachi5
36  #for_kuro_only#export S=fhs:fms:mkk:mkco:mmt:mnh:mym
37  #for_kuro_only#export DA=( `echo $D | tr -s ':' ' '`) #convert to shell array
38  #for_kuro_only#export SA=( `echo $S | tr -s ':' ' '`) #convert to shell array
39  #for_kuro_only#export LA=( `echo $L | tr -s ':' ' '`) #convert to shell array
40  #for_kuro_only#echo "\,$SA=${SA[@]}, \$DA=${DA[@]}, \$LA=${LA[@]}"
41  #for_kuro_only#for s in ${SA[@]}; do
42  #for_kuro_only#  for l in ${LA[@]}; do
43  #for_kuro_only#    for d in ${DA[@]}; do
44  #for_kuro_only##      cmd="python i2b.py -nrm $nrm -yth $yth -fmt ${fmt} -yin ${dl}/${s}-${d}${l}.dat
   -yout ${ds}/${s}-${d}${l}.${l}.${ext}"
45  #for_kuro_only##      cmd="python i2bs.py -mag $nrm -type ${type}-yin ${dl}/${s}-${d}${l}.dat -yout
   ${ds}/${s}-${d}${l}.${ext}"
46  #for_kuro_only##      echo $cmd; $cmd >> $log
47  #for_kuro_only#    done
48  #for_kuro_only#  done
49  #for_kuro_only#done
50  #for_kuro_only#emacs $log& #check no.1 of  log
51  #for_kuro_only#cat > tmp/tmp.plt<<EOF
52  #for_kuro_only#plot [1|0:400000] "$log" using 0:1 w lp,32767
53  #for_kuro_only#pause -1 "Push Enter to quit"
54  #for_kuro_only#EOF
55  #for_kuro_only#xterm -geometry 50x5+0-0 -e gnuplot tmp/tmp.plt& #check no.2 of log
56  #for_kuro_only#wc $log
57  #for_kuro_only##copy and past to here for s102
58  #for_kuro_only#  699  9779 85812 ../../12voicedata_ueki_all_sm/i2bs.log
59  #for_kuro_only#  699  9779 85231 ../../12voicedata_ueki_all_sl/i2bs.log
60  #for_kuro_only#export fnerr=nmmt-san2:fhs-hachi5
61  #for_kuro_only#export fnerr=nmmt-san2:fhs-hachi5
62  #for_kuro_only#
63  #for_kuro_only#export dl=~/../12voicedata_ueki_all_fr/fhs-zero2.flt #float normolized by rms
64  #for_kuro_only#export dl=~/../12voicedata_ueki_all_hr/fhs-zero2.sht #short normalized by rms
65  #for_kuro_only#at can2m+/can2c
66  #for_kuro_only#sudo /usr/local/SPTK/bin/gwave.sh&
67  #for_kuro_only######
68  #for_kuro_only#export fnshort=${ds}-${s}/${l}.short
69  #for_kuro_only#export fl=640 #flame-length 640=40ms*1600(1./T) original
70  #for_kuro_only#export fs=8 #kHz/ default 16 for 16kHz
71  #for_kuro_only#export l=20 #ms
72  #for_kuro_only#export fl=$(($l * $fs)) #flame-length 160=20ms*8000(1./T) l=20msec for lpcspectrumenv
   elope.py
73  #for_kuro_only##export p=100 #frame-period ?frame-shift ?
74  #for_kuro_only#export p=$(( $fl / 2 )) #80 #frame-period ?frame-shift ? p=100 default
75  #for_kuro_only#export m=12 #n-mfcc (dimension of MFCC (mel-frequency cepstral coefficients)
```

```
76  #for_kuro_only#export n=20 #number of filter-bank channels
77  #for_kuro_only#export a=0.97 #pre-emphasis
78  #for_kuro_only#export E=0 # E=1 for including energy, 0 for not.
79  #for_kuro_only#
80  #for_kuro_only#for s in ${SA[@]}; do
81  #for_kuro_only#  for d in ${DA[@]}; do
82  #for_kuro_only#    for l in ${LA[@]}; do
83  #for_kuro_only#      x2x -sf < $fnshort | frame -l $fl -p $p | mfcc -l 640 -f 16 -m 12 -n 20 -a 0.
   $E - data.mfc
84  #for_kuro_only##            x2x +sf < $fnshort | frame -l 640 -f $fs -m $m -n $n -a $a
97 > data.mfc
85  #for_kuro_only##done;done;done
86  #for_kuro_only#export MFCC=$1:$m:$n:$E
87  #for_kuro_only#
88  #for_kuro_only#cmd="python mkM.py -dn $dn -dr $dr -R $R -ow 00 -k $k -l $l -mp_th ${mp_th} -N ${N} -
   rsa ${rsa} -DISP 0 -nDisp ${nDisp} -S $S -D $D -L $L -fnerr $fnerr -dbgi 0"
89  #for_kuro_only#method=CAN2,SP,MFCC #SP for Spectral Envelope
90  #for_kuro_only#
91  #######
92  #20210522
93  #######
94  #speedtest
95  T0=`date +%s`;time ensrs ../tmp/speech_train_xy.dat 2:50:1.6:1 70-70 ib:0:0:0 y:-1:1-1:1 x:0
:0:1 DISP:0 nop:1 bg:/dev/null;T1=`date +%s`;T=$(( (T1 - T0));H=$((T1 / 3600 ));DT=$((DT % 3600 ));M=$((DT
 / 60 ));S=$((DT % 60));echo "#Elapsed ${H}:${M}:${S}"
96  #######
97  #20210427-20210517
98  #######
99  #(00) この旧以前のプログラム RX_20210426.pyで
100  (00) この旧以前のプログラム RX_20210426.pyで
101  特に、oob4speakerdigit+RX_20210426.pyで
102
103  lpcspectrumenvelope.pyの係数が[1.0,....,0](最初だけ1、残りは0) および
104  それに近くなると、mkM.pyでM[]=[1.0,....,0]の係数ができる。
105  M2s.pyでスペクトル包絡をつくると nanが発生する。
106  すると train_xy.datにnanが含まれ、間違った(高い) 認識率になっている
107  (エラーで止まることはないが、おかしいことを示すメッセージがでる)。
108  それらを除外する修正等をした後、LPCの特徴ベクトルとして、
109  [1]LPCの極分布      ER0.060 F0.764 pP1F2x23G3x0.5mDN50b50a1.6R11x0sds  ---  ../../12voicedata_uek
i_all_k2015R1_Ku20omp3  xxxx pP1.k2015
110  [2]LPCのスペクトル包絡：ER0.070 F0.735 FDsCns1201s10N60b50a1.6R11x0sds  ../../12voicedata_ueki_al
l_k2015R1_Ku20omp3 xxxx FDsC.k2015
111  について[1]の方が[2]よりも良くなくなり、以前と違う結果となった
112  (下記のxxx FDsC.k2015とxxxx pP1.k2015 ので検索：現在この行は19行で約400行下のL426行あたり）
113  この内容は、それまでの結果と違うので、間違いが念入りな検証すべき。pLPCについては、
114  [3] pLPCの極分布      ER0.043 F0.840 pP1F2x23G3x0.5m0N70b50a1.6R11x0sds ../../12voicedata_ueki_al
1_k810R1N50a0.7b20_Ku20omp2 pP1.k8 tspomp@susanoo***!!!
115  [4] pLPCのスペクトル包絡  ER0.072 F0.730 FDsCns1201s10N60b50a1.6R11x0sds ../../12voicedata_ueki_all_k
810R1N50a0.7b20_Ku20omp2 xxxx FDsC.k810
116  について[3]は非常に良い結果が得られた。2つの特徴ベクトルを結合した結(415行目辺り）:
117  [5] ER0.033 F0.876 pP1F2x23G3x0.5m0N40b50a1.6R11x0sds ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku
20omp3+../../12voicedata_ueki_all_k2015R1_Ku20omp3/pP1F2x23G3x0.5m0***N40 why small?
118  は、さらに良い結果であることを示している。
119
120  (0) 以下、下の「20201210-20201225」のところを整理
121  ####################
122  #注意1:[1.0]はインストール後、一回すれば良い；その後.[a].[b]を行う；
123  #[a] 極分布を求め (M2PC.py->PC2xPy)、話者識別または単語番識別 (oob4speakerdigit+RX_20210426.py)または
124  # [1.1]-[2a.1]-[2a.2]-[2a.3]
125  #[b] スペクトル包絡を求め (M2s.py)、話者識別または単語番識別 (oob4speakerdigit+RX_20210426.py)
126  #      [1.1]-[2b.1]-[2b.2]
127  #注意2:コピペでは
128  #copy&paste from here for ... から
129  #copy&paste from to here for ... までを1かたまりとして、実行するとよい
130  ####################
131  ####################
132  #[1] 前処理（データ正規化）以前の処理も同じ:#20191205 ← 20191118 #20180606の再試行＋修正 の(0)-(2)
133  ####################
134  #[1.0]
135  #at can2m+/can2c
136  #ln -s /media/sf_D_DRIVE/data/12voicedata ~/sotu/2012/12voicedata_ueki #shigeta only
137  #ln -s /media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/12voicedata #kurogi only
138  ####
139  #[1.0.1] リンク作成
140  ####
141  #d0=/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/12voicedata
142  #d1=~/sotu/2012/12voicedata_ueki_all;    #old directory
143  #dl=~/../12voicedata_ueki_all; mkdir -p $dl    #old directory
144  ##
145  #d0=~/data/12voicedata_ueki    #new directory
146  #dl=~/data/12voicedata_ueki_all; mkdir -p $dl  #new directory
147  #for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
```

```
148     ln -s ${d0}/$(d)/* ${dl}/
149  done
150  ###
151  #(1.0.2)パワー正規化
152  ###
153  d0=~/data/12voicedata_ueki/                          #new directory
154  dl=~/data/12voicedata_ueki_all; mkdir -p $dl        #new directory
155  dn=${dl}_n; mkdir -p $dn #save normalized speech signal
156  rm -rf $dn/*
157  log=$dn/normalize.log
158  #echo "ymin=$ymin" > $log
159  #export yth=0.05 #y[t]>yth*yMax is used for normalization by rms #ymin=0 #old version of yth
160  echo "#normalization by rms for y[t]>y_max*${yth}" > $log
161  for d in fhs fms mkk mko mmt mnh mymi do
162  #  for d in zero ichi ni san si go roku nana hachi kyu; do
163  #   for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
164     for l in 1 2 3 4 5 6 7 8 9 10; do
165        cmd="python speechnormalize.py -yth $yth -yin ${dl}/${s}-${d}${l}.dat -yout ${dn}/${s}-${d}${l}${l
166        echo $cmd; $cmd >> $log
167     done
168  done
169  done
170  #
171  cat > tmp/tmp.plt<<EOF
172  plot [l:l]"$log" using 0:1 w lp,32767
173  pause -1 "Push Enter to quit"
174  EOF
175  xterm -geometry 50x5+0 -0 -e gnuplot tmp/tmp.plt& #check no.2 of log
176  wc $log
177  d0=~/sotu/2012/12voicedata_ueki/
178  dl=../../12voicedata_ueki_all; mkdir -p $dl
179  dn=${dl}_n; mkdir -p $dn #save normalized speech signal
180  #
181  #
182  #
183  ###################################
184  #(1.1)混合音声とM（LPC係数およびpLPC係数）の作成
185  ###################################
186  # mkM.pyで すべての音声に対し、混合音で音声を合成し    LPC係数M(1>0)またはpLPC係数M(1=0)を求める
187  ###上の準備後、毎回の本実験はここから
188  #copy&paste from here for step1
189  make
190  ##platform=SY for Shigeta and Yamochi, K for Komatsu !!!!!!!!!!!!!!!!!!!!
191  export platform=K #platform=K for Komatsu
192  export platform=SY #platform=SY for Shigeta and Yamochi
193  export platform=Su4 #platform=SY for Shigeta and u14 for ubuntu14.04
194  export platform=Su20 #platform=SY for Shigeta and u20 for ubuntu20.04
195  export platform=Ku20omp1 # u20 for ubuntu20.04 20210420
196  export platform=Ku14 # u14 for ubuntu14.04 20210419
197  export platform=Ku20omp1 # u20 for ubuntu20.04 20210507 u20@laptop
198  export platform=Ku20omp3 # u20 for ubuntu20.04 20210507 susanoo-->u20@laptop 20210518
199  export platform=Ku20omp2 # u20 for ubuntu20.04 20210616 VBK1@wl0@laptop
200  export platform=Ku20omp5 # u20 for ubuntu20.04 20210616 u20@laptop
201  export platform=Ku20omp6 # u20 for ubuntu20.04 20210618 u20@laptop
202  export platform=Ku20omp7 # u20 for ubuntu20.04 20210616 u20@susanoo
203  #####
204  export d0=~/sotu/2012/12voicedata_ueki/
205  export dl=../../12voicedata_ueki_all; mkdir -p $dl
206  export d0=~/data/12voicedata_ueki_all; mkdir -p $dl
207  export dn=$(dl)_n; mkdir -p $dn #save normalized speech signal
208  export dm=${dl}_n; mkdir -p $dm                     #folder for saving mixed speech
209  #####
210  ##(1.1a and 1.1b] 小松君は不足ファイルを置き換えて，fnerrを空集合にする，矢持さん，重田君は元に戻す。
211  #####
212  #####
213  #####
214  if [ "${platform:0:1}" = "S" ];then
215  ## [1.1a] 矢持さん，重田君は次を実行する (Yamochi,Shigeta)
216  ## mmt-san2と fhs-hachi5が不足しています、L=1:2:3:4:5:6:7:8:9:10 nf=$((7*10*10-2))=698個のデータで実験する
```
る

```
217  ###
218  export L=1:2:3:4:5:6:7:8:9:10 nf=$((7*10*10-2)) fnerr=mmt-san2:fhs-hachi5
219  ###
220  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
221  #rm $dn/mmt-san2.dat $dn/fhs-hachi5.dat #(0.3a)を行った場合。これはしなくてもよい念のため元に戻した
方が間違わない
222  #####
223  else #if [ "${platform:0:1}" = "K" ];then
224  ###
225  ##[1.1b] 小松君は、次を実行する (Komatsu)
226  ## mmt-san2と mmt-san10, fhs-hachi5を fhs-hachi10で置き換えて、L=1:2:3:4:5:6:7:8:9 nf=$((7*10*9))=630個
```

のデータで実験する。

```
227  ###
228  if [ ! -e $dn/mmt-san2.dat ]; then cp $dn/mmt-san10.dat $dn/mmt-san2.dat; fi
229  if [ ! -e $dn/fhs-hachi5.dat ]; then cp $dn/fhs-hachi10.dat $dn/fhs-hachi5.dat; fi
230  export L=1:2:3:4:5:6:7:8:9 nf=$((7*10*9)) fnerr='_' #fnerr='_' # for no error file
231  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
232  export S=fhs:fms:mkk:mko:mmt:mnh:mym
233  fi
234  #####
235  ###From here
236  #echo -e "\n\nplatform=$platform with nf=$nf fnerr=$fnerr L=$L"
237  export R=1 ##R=1:0:8:0:6:0:4:0.2
238  #for LPC (Spectral Envelope using LPC and Levinson-Durbin)
239  export dv=20 l=5 ns=120 mp_th=0 nDisp=5 #for LPC次数k フレーム長l[ms],平均パワー mp_th, フレーム番号
nDisp ***
240  export FD=SC #with FD=SC..., S for poleweight1, C for LPCspectrum;
241  export FD=SC #with FD=SC..., s for orig,           C for LPCspectrum;
242  export ns=120 #スペクトルの次元 see M2s.py
243  export ls=10 # ls[0]=1 for log after sum        log|sum_m 1/(1-Pm exp(-jw n))| see M2s.py
244  ###################################
245  #LPC+SE best
246  export k=20 l=5 ns=120 FD=SC;
247  export method="LPC+SE",${k},${l},${FD},$(ns) #LPC+SE(spectral envelope) #best?F0.734
248  #CAN2+PD best
249  export k=8 N=50 a=0.7 b=20 s=1 l=0 FD=pP1 nr=2 na=23 sG=0.5 mel=0;export rsa=2:${a}:${s}:${b};
250  export method=a=CAN2+PD",${k},${N},${rsa},${nr},${na},${nG},${sG},${mel} #CAN2=pole distribution
251  #MFCC best
252  export l=20 n_MFCC=20 n_MFCCFB=22 E_MFCC=1;
253  export method=MFCC,${l},${n_MFCC},${n_MFCCFB},${E_MFCC} #best?F0.893
254  ###################################
255  #
256  if [ ${method:0:1} = "C" ]; then #CAN2+..
257    export dr=${dl}_CAN2k$(k)N$(N)a${a}b${b}R${R}_${platform}; mkdir -p $dr #1>0 for LPC, 1=0 for CAN2(pLPC)
258  #new
259  elif [ ${method:0:1} = "L" ]; then #LPC+..
260    export dr=${dl}_MFCC1${l}R${R}_${platform}; mkdir -p $dr #1>0 for LPC, 1=0 for CAN2(pLPC)
261  #
262  elif [ ${method:0:1} = "M" ]; then #MFCC
263    export dr=${dl}_k${k}l${l}R${R}_${platform}; mkdir -p $dr #1>0 for CAN2(pLPC) #ne
264  fi
265  #
266  #export dr=${dl}_k${k}l${l}R${R}_${platform}; mkdir -p $dr #1>0 for LPC, 1=0 for CAN2(pLPC)
267  #new
268  #####
269  export nfn=`ls ${dr}/*-R${R}-*.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*--R$
270  cmd1="python mixR_y.py -dn $dn -dr $dr -R $R -ow 11 -S $S -D $D -L $L -fnerr $fnerr -dbgi 0"
271  if [ "$nfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
272  echo "#Exec ${cmd1}";${cmd1}
273  fi
274  #### step1.2
275  if [ "${method:0:1}" = "M" ]; then kw=MFCC1${l}m${n_MFCC}n${n_MFCCFB}E1; else kw=M ;fi
276  export nfn=`ls ${dr}/*-${kw}*.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-${kw
}*.dat files nfn=$nfn"
277  make data-clean
278  #####
279  cmd12="python y2M_F.py -dn $dn -dr $dr -R $R -ow 00 -method $method -S $S -D $D -L $L -fnerr $fnerr
-dbgi 0"
280  if [ "$nfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
281  echo "#Exec ${cmd12}";${cmd12}
282  #echo "#Exec $cmd";date>nohup.out;echo "$cmd">>nohup.out;nohup $cmd&
283  #cmd="python mkM.py -dn $dn -dr $dr -R $R -ow 00 -k $k -l $1 -mp_th ${mp_th} -N ${N} -rsa ${rsa} -DI
SP 0 -nDisp ${nDisp} -S $S -D $D -L $L -fnerr $fnerr -dbgi 0"
284  #for check
285  #python lpcspectrumenvelope.py -yin ../../12voicedata_ueki_all_m/fhs-zero1-R1.dat -k 15 -l 20 -mp_th
0.0 -fout ../../12voicedata_ueki_all_k15120R1_SY/fhs-zero1-R1-M.dat -nDisp -1
286  #echo "#Exec $cmd";date>nohup.out;echo "$cmd">>nohup.out;nohup $cmd&
287  else
288  echo "#Number of files $nfn=$nf is sufficient. Omit making M."
289  fi
290  ###########check files created
291  #echo c|python mkM_lpc.py -dr $dr -R $R -DISP 0 -ow 00 -k $l -mp_th 0.0 -nDisp 5 -dbgi 1
292  #echo c|python mkM20201214.py -dr $dr -R $R -DISP 0 -ow 00 -k $k    -dbgi 1
293  #ElapsedTime about 567.767s(0:09:27.766) for lpc
294  #copy&paste to here for step1 #  nfn=$nf であることを確認後以下に進む
295  ###if[Exec cmd11&cmd12] Do the command for step1
296  echo -e "\n${cmd11}\n\n${cmd12}"                        #Check the command
297  ###
298  date>nohup.out&LANG=C&date>nohup.out;nohup ${cmd11} && nohup ${cmd12}&
```

```
299  ###[Verify] check files created for step1
300  if [ "${method:0:1}" = "M" ]; then kw=MFCC1${1}n${n_MFCC}n${n_MFCCFB}E${E_MFCC};else kw=M ;fi
301  export nfn=`ls ${dr}/*-${kw}*.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-${kw
}*.dat files nfn=$nfn"
302  xterm -geometry 80x20-0+0 -e "top"&        #check python is running
303
304  ###############################################
305  #ElapsedTime 3263.265s(0:54:23.264) for CAN2+PD,8.50.2:0.7:1:20,2,23,3,0.5,0 u20@susanoo
306  #ElapsedTime 234.170s(0:03:54.169) for MFCC,20,20,22,1 u20@susanoo
307  #ElapsedTime about 567.767s(0:09:27.766) for lpc
308
309  ##############################################
310  ####
311  if [ "${method:0:1}" = "M" ]; then kw=MFCC1${1}n${n_MFCC}n${n_MFCCFB}E${E_MFCC}; else kw=M ;fi
312  export nfn=`ls ${dr}/*-${kw}*.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-${kw
}*.dat files nfn=$nfn"
313  #wc ${dr}/*-M.dat
314  ###########
315  ###########
316  #python f2b.py -fmt f -yin ../../12voicedata_ueki_all_m/fhs-zero1-R1.dat -yout tmp/tmp.flt;cat tmp/t
mp.flt|frame -l 160 -p 80 | mfcc -l 160 -f 8 -m 12 -n 20 -a 0.97 -E > tmp/mfcc.bin;python print_mfcc.py tmp/
mfcc.bin l3 > ../../12voicedata_ueki_all_l20n12n12E1_all_k201SR1_Ku20n20E1.dat
317  ###############################################
318  #ElapsedTime 17214.027s(4:46:54.026) ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp3 laptop
319  #ElapsedTime 10790.72s(2:59:50.724) ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp2 susanoo
320  #ElapsedTime 27488.470s(7:38:08.469) ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku14omp u14@win10@l
aptop
321  #ElapsedTime 442.282s(0:07:22.281) ../../12voicedata_ueki_all_k201SR1_Ku20omp3 laptop
322  #ElapsedTime 506.122s(0:08:26.121) ../../12voicedata_ueki_all_k201SR1_Ku20omp2 susanoo
323  #before20210507
324  #ElapsedTime 16879'.683s(4:41:19.682) ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp laptop #bef
ore20210507
325  #ElapsedTime 17243.044s(4:47:23.044) #../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp laptop #be
fore20210616
326  #ElapsedTime 372.084s(0:06:12.084) #../../12voicedata_ueki_all_k15120R1_Ku20-/mym-kyu9-R1-M.dat cr
eated
327  #ElapsedTime 374.870s(0:06:14.869) #../../12voicedata_ueki_all_k15120R1_Ku20/ laptop
328  #ElapsedTime 409.380s(0:06:49.380) #../../12voicedata_ueki_all_k15120R1_Ku20/ susanoo
329  #ElapsedTime 623.149s(0:10:23.149) #../../12voicedata_ueki_all_k15120R1_Su14
330  #ElapsedTime 31969.678s(8:52:49.677) #../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20 susanoo
331  #ElapsedTime 31479.091s(8:44:39.090) #../../12voicedata_ueki_all_k810R1N24a0.7b20_SY
332  #ElapsedTime 33033.020s(9:10:33.019) #../../12voicedata_ueki_all_k810R1N30a1.0b20_SY t1=400  in mkM.
py
333  #ElapsedTime 34423.572s(9:33:43.571) #p.../../12voicedata_ueki_all_k15120R1_Ku20/FDsCns1201s10train_xy.dat t1=10000 in mk
M.py
334
335  ####################################################
336  #[2] Mから極分布または話者識別 (M2PC.py→PC2xPy)  または話者識別
337  #[2a] 極分布を求め (M2PC.py→PC2xPy)  話者識別または単語識別
speakerdigit+RX_20210426.py)または は
338  #[2b] スペクトル包絡を求め (M2s.py)、話者識別または単語識別 (oob4speakerdigit+RX_20200910.py->oob4s
peakerdigit+RX_20210426.py)
339  ##############################################
340
341  #[2b.1] スペクトル包絡を求め (M2s.py)、話者識別または単語識別 (oob4speakerdigit+RX_20200910.py->oob
4speakerdigit+RX_20210426.py)
342  #[2b.1] スペクトル包絡を求め (M2s.py)、話者識別または単語識別 then goto 2b.2.
343  #copy&paste from here for step2b.1. #if method=MFCC then goto 2b.2.
344  ##############Exec
345  ###########################################
346  export FD=SC #With FD=SC..., S for poleweight1, C for LPCspectrum;
347  export FD=SC #With FD=SC..., s for orig,      C for LPCspectrum;
348  export ns=90  ns=120 #スペクトルの次元
349  export ls=10 #ls[0]=1 for log after sum   log|sum_m 1/(1-Pm exp(-jw n))|
350  export D=zero:ichi:nisan:si:go:roku:nana:hachi:kyu S=fhs:fms:mkk:miko:mmt:mnh:mym
351  export fn=${dr}/mym-zero9-R${R}-FD${FD}n${ns}ls${ls}.dat
352  ##
353  #export nfn=`ls ${dr}/*-${kw}*.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-${k
w}*.dat files nfn=$nfn"
354  cmd2b1="python M2s.py -dr $dr -R $R -ow 1 -DISP 00 -dbgi 1 -ns -ls $ls -FD $FD -rap 0 -L $L -fne
rr $fnerr"
355  export nfn=`ls ${dr}/*-*-R${R}-FD${FD}n${ns}ls${ls}.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo
"#Number of files $dr/*-*-R${R}-FD${FD}n${ns}ls${ls}.dat is nfn=$nfn"
356  #####Exec
357  if [ "$nfn" -eq "$nf" ]; then # if [ !-e $fn ]; then #ファイルがなければ作る
358  echo "#Number of files $nfn=$nf is sufficient. Omit making spectrum files."
359  else
360  cmd0="python M2s.py -dr $dr -R $R -ow 1 -DISP 00 -dbgi 1 -ns -ls $ls -FD $FD -rap 0 -L $L -fnerr
$fnerr" #../../12voicedata_ueki_all_k15120R1_Ku20 -R 1 -ow 1 -DISP 00 -dbgi 1 -ns 12
0 -ls 10 -rap 0 -fnerr ' -S mnh -D si -L 5
361  echo #check python M2s.py -dr ../../12voicedata_ueki_all_k15120R1_Ku20 -R 1 -ow 1 -DISP 00 -dbgi 1 -ns 12
362  echo "Executing $cmd2b1"
```

```
363  #$cmd0
364  echo c |$cmd2b1
365  fi
366  #echo -e "\n\ncmd2b1=\"${cmd2b1}\"  \nDo as: \${cmd2b1}"
367  ##copy&paste to here for step2b.1
368  ###############
369  ###[Exec cmd2b1] Do the command for step1
370  echo ${cmd2b1}                            #Check the command
371  date>nohup.out&LANG=C&date>nohup.out;nohup ${cmd2b1}&
372  ###[Verify] check files created for step2b.1 ??
373  export nfn=`ls ${dr}/*-*-R${R}-${FD}n${ns}ls${ls}.dat>tmp.txt 2>/dev/null;cat tmp.txt 2>/dev/null|wc -l`;echo "
#Number of files $dr/*-*-R${R}-${FD}n${ns}ls${ls}.dat is nfn=?$nf"
374  xterm -geometry 80x20-0+0 -e "top"&
375  #####################################
376  #[2b.2] oob4speakerdigit+RX_20210426.pyで話者照合 (sd=s)または単語照合 (sd=d)を行う
377  ########
378  ##copy&paste to here for step2b.2
379  export sd=d #word identification
380  export sd=s #speaker identification
381  export sX=-i:a=1.6:b=100:N4=0: #
382  export sX=-i:a=1.6:b=50:N=60: #best for ../../12voicedata_ueki_all_k201SR1_Ku20omp3 ?
383  export mbas=:${b}:${a}:1
384  export mel=0 #1 for use mel frequency
385  export nlz=norm #normalize by norm, max, 1
386  #####Exec
387  #for save train_xy
388  #Additional Features
389  export AF=../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20/pP1F2x23G3x0.5m0
390  export AF=../../12voicedata_ueki_all_k201SR1_Ku20omp2/FDsCns1201s10 #susanoo
391  export AF=q #for save only-for quit before learning
392  export AF=' ' #export AF=q for quit just after saved Additional Features without training. AF='_' fo
r do nothing
393  #20210616
394  cmd2b2="python oob4speakerdigit+RX_20210617.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas  -N ${N}
-sd $sd -sX ${sX} -mel $mel -nlz $nlz -fnerr $fnerr -AF $AF -method $method"
395  #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $R -dr $dr -L $L -dr $dr -R $R -mbas $mbas -N ${N}
sd $sd -sX ${sX} -FD ${FD} -ns $ns -ls $ls -mel $mel -nlz $nlz -fnerr $fnerr -AF $AF -method $method"
396  #
397  #cmd="python oob4speakerdigit+RX_20210426.py -FD $D -ns $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N}
398  #
399  #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N}
sd -sX ${sX} -FD ${FD} -ns $ns -ls $ls -mel $mel -nlz $nlz -fnerr $fnerr -AF q"/$cmd ==>#saved ../../12
voicedata_ueki_all_k15120R1_Ku20/FDsCns1201s10train_xy.dat
400  ##
401  ###
402  #${cmd2b2}                                 #Execution
403  #date > nohup.out;nohup $cmd2b2&    #select this line
404  #cat >cmd.sh <<EOF
405  ##!/bin/bash -x
406  #make
407  #$cmd:
408  #export LANG=C';export d=`date`\'
409  #notify-send -t 10000 -i dialog-information -u critical 'Finish'
410  #EOF
411  #rm -f nohup.out;nohup sh cmd.sh&
412  #echo -e "\n\ncmd2b2=\"${cmd2b2}\"  \nDo as: \${cmd2b2}"
413  ##copy&paste to here for step2b.2(and 2b.1)
414  ###############
415  ###[Exec cmd2b.2] Do the command for step1
416  echo ${cmd2b2}                            #Check the command
417  date>nohup.out&LANG=C&date>nohup.out;nohup ${cmd2b2}&
418  ###[Verify] check files created for step2b.1 ??
419  ls ${dr}/*train_xy.dat
420  xterm -geometry 80x20-0+0 -e "top"&
421  ###################################
422
423
424  ##################################################
425  #[2a] 部分分数展開 L (M2PC.py)、極分布を求め (C2xPy)，学習識別 (oob4speakerdigit+RX_20210426.py.oob4spe
akerdigit+RX_20200910.py)
426  #[2a1] 部分分数展開 (M2PC.py)、oob4spe
427  ###############
428  ###############
429  #[2a.1] M2PC.py(Mを部分分数展開C_i/(1-P_i z^(-1))に展開)でP-C係数ファイルを作り、各行には
Px Py Cx Cy を保存.
430  #copy&paste from here for step2a.1
431  export fm=${dr}/*-R${R}-*-PC.dat;nfn=`ls ${fn}>tmp.txt 2>/dev/null|wc -l`;echo "#nfn=$nfn"
432  export fm=${dr}/*-R${R}*-PC.datというP-C係数ファイル
-PC.dat files exist"
433  #export fn=${dr}/*-R${R}*-PC.dat;nfn=`ls $fn|wc -l`;echo "#nfn=$nfn files exist"
434  ###
```

```
435  #####Exec
436  cmd2a1="python M2PCpara.py -dr $dr -R $R -ow 1 -DISP 0 -L $L -fnerr $fnerr"
437  if [ "$fnfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
438  #cmdPC="python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 -L $L -fnerr $fnerr"
439  #echo "Executing $cmd2a1"'$cmd2a1
440  #date > nohup.out;echo $cmd2a1>>nohup.out;nohup.out:echo ${cmd2a1} &
441  #date > nohup.out:nohup python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 &
442  ##errorcheck
443  ##export S=fms Deroku L=2; cmdPC="python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 -S $S -D $D -L $L"
444  ##次元が R=10のとき、極数が 9 となることがあったので M2PC.macを修正、PC2xPy.pyも修正
445  #nanの Ci (n=402,i=8) があった。
446  #.../../12voicedata_ueki_all_k1010/mko-roku3-R1-PC.dat:0.6243918693768808 -0.8230316591435269 0.-nan
0.-nan
447  #echo -0'/*-R${R}'*-PC.dat:nfn=`ls ${fn}>tmp.txt|wc -l`;echo "#nfn=$nfn
448  else
449  fi
450  echo "#number of *-PC files $nfn=$nf is sufficient. Omit making PC fules."
451  #############check number of files created
452  #copy&paste to here for step2a.1
453  fi
454  ###[Exec cmd2a.1] Do the command       #Check the command
455  echo ${cmd2a1}                          #check the performance
456  xterm -geometry 80x20-0+0 -e "top"&
457  date>nohup.out&&LANG=C&date>nohup.out:nohup ${cmd2a1}&
458  ###[Verify] check files created for step2b.1 ??
459  export fn=${dr}/*-R${R}'*-PC.dat files exist"
$dr/*-PC.dat files exist"
460  #date > nohup.out:echo $cmd2a1>>nohup.out:nohup ${cmd2a1} &
461  #ElapsedTime 4003.403s(1:06:43.403) m_cpu12 for ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp3
462  #ElapsedTime 19191.897s(5:19:51.896) for ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp
463  #ElapsedTime 17960.237s(4:59:20.237) for ../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20/
464  #ElapsedTime 41990.175s(11:39:50.174) for ../../12voicedata_ueki_all_k2015R1_Ku20omp at susanoo
465  #date > nohup.out:echo $cmd2a1>>nohup.out:nohup ${cmd2a1} &
466  export fn=${dr}/*-R${R}'*-PC.dat:nfn=`ls ${fn}>tmp.txt 2>/dev/null:cat tmp.txt|wc -l';echo "#nfn=$nfn
=?$nf $dr/*-PC.dat files exist"
467  ##############
468  #[2a.2] 主成分パラメタメタを持つxPy確分布ファイルの存在を調べ、なければ作る
469  #copy&paste from here for step2a.2
470  export RX=0  #??? size of Gaussian Kernel, sG:sigma of Gaussian Kernel
471  export nG=3  sG=0.5  #nG:  size of Gaussian Kernel, sG:sigma of Gaussian Kernel
a.3]
472  export FD=pP1 #pP1 pPc pPcb rP1 rPc rPcb #all features made here, actual decision is done at [2
473  export URA=0 #1 for use real axis, 0 for negrect real axis PC2xPy.py,
474  export mel=0 lx=0 #0
475  export nx=16 nr=4 na=26 #nx=`((nr*na)*2)**(0.5)`:print 'nx=',int(nx+0.5)nx= 10
476  export nx=14 nr=2 na=23 #nx=`((nr*na)*2)**(0.5)`:print 'nx=',int(nx+0.5)nx= 10
477  ###echo "#Number of *-$FDf.dat files $nfn"
478  #ls $dr/*pP1*.dat|wc
479  ###[Exec cmd2a.2] Do the command      #Check the command
480  echo ${cmd2a2}
481  date>nohup.out&&LANG=C&date>nohup.out:nohup ${cmd2a2}&
482  #copy&paste to here for step2a.2
483  fi
484  echo -e "\n\ncmd2a2=\"${cmd2a2}\"\nDo as: \${cmd2a2}"
485  #copy&paste to here for step2a.2
486  ###[Verify] check files created for step2b.1 ??
487  #cmd2a2="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow $ow -mel $mel -DISP 0 -URA $URA -k $k -metho
d $method"
mel -DISP 0 -URA $URA -k $k"
488  if [ "$fnfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
489  echo "#Execute ${cmd2a2}";${cmd2a2}& #計算すぐ
490  ${cmd2a2} #date > nohup.out:nohup ${cmd2a2}& #計算すぐ
491  fi
492  echo -e "\n\ncmd2a2=\"${cmd2a2}\"\nDo as: \${cmd2a2}"
493  #copy&paste to here for step2a.2
494  ##############
495  ###[Exec cmd2a.2] Do the command       #Check the command
496  echo ${cmd2a2}
497  date>nohup.out&&LANG=C&date>nohup.out:nohup ${cmd2a2}&
498  ###[Verify] check files created for step2b.1 ??
499  if [ "${FD:0:1}" == "p" ]; then #x#Pyファイルの存在確認
-1',
500  #nfn=`ls ${dr}/*-R${R}'*-${FD}F${nr}x${na}G${nG}x${sG}m${mel}.dat>tmp.txt 2>/dev/null:cat tmp.txt|wc
501  export fn=${dr}/*-R${R}'*-${FD}F${nr}x${na}G${nG}x${sG}m${mel}.dat: nfn=`ls $fn|wc -l`;echo "#nfn=$nf
n files exist"
502  export fn=${dr}/*-R${R}'*-pP1F${nr}x${na}G${nG}x${sG}m${mel}.dat: nfn=`ls $fn|wc -l`;echo "#nfn=$nfn
files exist"
503  #ls $dr/*pP1*.dat|wc
504  else
505  export fn=${dr}/mym-zero9-R${R}'*-${FD}F${nx}G${nx}x${sG}.dat
506  #nfn=`ls ${dr}/*-R${R}'*-${FD}F${nx}G${nG}x${sG}.dat >tmp.txt 2>/dev/null:cat tmp.txt|wc -l`
507  export fn=${dr}/*-R${R}'*-${FD}F${nx}G${nx}x${sG}.dat:export nfn=`ls $fn|wc -l`;echo "#nfn=$nfn files
```

```
exist"
508  fi
509  ###並列列処理でうまく実行できなかったファイルがでてくる可能性がある。上書をしないモード (ow=0) にして再
実行するか。
510  ow=0:cmd2a2="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow -mel $mel -DISP 0 -URA $URA -k $k -metho
d $method"
511  # L,S,Dを特定して実行
512  ow=0:cmd2a2="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow -mel $mel -DISP 0 -URA $URA -k $k -metho
d $method"
513  ###################################################################
514  cp ../tsp/PC2xPy.py susanoo:/home/kuro/sotu/2021/can2m/tsp/
515  ###################################################################
516  ###################################################################
517  #[2a.3] 学習と話者識別実行 oob4speakerdigit+RX_20210426.py(oob4speakerdigit+RX_20200910.py)
518  ##############
519  #copy&paste from here for step2a.3
520  export sX=-i:a=1.6:b=100:N=40: #
521  export sX=-i:a=0.7:b=20:N=40: #
522  export sX=-i:a=1.6:b=100:N=50: #
523  export sX=-i:a=1.6:b=50:N=40: #
524  export sX=-i:a=0.7:b=50:N=70: #
525  export sX=-i:a=1.6:b=50:N=80: #
526  export sX=-i:a=1.6:b=50:N=70: #better than for N=60,80
527  export nlz=norm
528  export nlz=l
529  export mbas=2:${b}:${a}:l
530  export ow=0 #Do not do make clean:Use previous learning
531  export ow1 #make clean
532  export sd&d #digit(word) verification         #new version
533  export sd=s #speaker verification             #new version
534  export FD=pP1 #pP1 pPc pPcb rP1 rPc rPcb
535  #####Exec
536  #Additional Features save
537  #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R -RX $RX -mbas $mbas -
sd $sd -N ${N} -sX ${sX} -FD ${FD} -nx $nx -nr -na $na -nG $nG -sG -mel $mel -nlz $nlz -lx $lx -ow $
ow
q'';$cmd
538  #===>#saved ../../12voicedata_ueki_all_k1512l0R1_Ku20/FDsCns1201s10train_xy.dat
539  #Additional Features load
540  export AF=../../12voicedata_ueki_all_k1512l0R1_Ku20/FDsCns1201s10
541  export AF=../../12voicedata_ueki_all_k2015R1_Ku20omp3/pP1F2x23G3x0.5m0 #laptop
542  export AF=../../12voicedata_ueki_all_k2015R1_Ku20omp3/FDsCns1201s10 #laptop
543  export AF=../../12voicedata_ueki_all_k2015R1_Ku20omp2/pP1F2x23G3x0.5m0 #susanoo
544  #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R -RX $RX -mbas $mbas -
545  export AF=../../12voicedata_ueki_all_k120mn22ERI_Ku20omp5/MFCC120m22n21E1train_xy.dat #u20@VB@win10
546  export AF=q #for save only= quit before learning
547  export AF=','
548  cmd2a3="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R -RX $RX -mbas $mbas
-sd $sd -N ${N} -sX ${sX} -FD ${FD} -mel $mel -nlz $nlz -lx $lx -ow $ow -AF $AF -method $method"
549  #cmd2a3="python oob4speakerdigit+RX_20210426.py -mel $mel -nlz $nlz -lx $lx -ow $ow -AF $AF -method $method"
550  #cmd="python oob4speakerdigit+RX_20210426.py -nx $nx -nr $nr -na -nG $nG -sG -mel $mel -nlz $nlz -lx -o
w $ow -AF $AF"
551  #echo "#Execute ${cmd}"; #${cmd2a3}&
552  #date > nohup.out:nohup ${cmd}&
553  echo -e "\n\ncmd2a3=\"${cmd2a3}\"\nDo as: \${cmd2a3}"
554  ##############
555  #copy&paste to here for step2a.3
556  ###################################################################
557  ###[Exec cmd2a.3] Do the command
558  echo ${cmd2a3}                          #Check the command
559  date>nohup.out&&LANG=C&date>nohup.out:nohup ${cmd2a3}&
560  ###[Verify] check files created for step2b.1 ??
561  ls $dr/*train_xy.dat #Check AF=$dr/*train_xy)
562  ###################################################################
563  ##############
564  #sd=d#20210510 sd=d digit(word) identification
565  #sd=d#20210510 sd=d digit(word)
566  ##############
567  #sd=d#TP0.787 TN0.983 FP0.017 FN0.213 ER0.037 RC0.787 PR0.834 F0.810 n6300 k120 FDsCns1201s10N70b50
568  #sd=d#TP0.787 TN0.984 FP0.016 FN0.213 ER0.036 RC0.787 PR0.815 F0.815 n6300 k120 FDsCns1201s10N60b50
569  #sd=d#TP0.767 TN0.984 FP0.016 FN0.233 ER0.038 RC0.767 PR0.839 F0.801 n6300 k120 FDsCns1201s10N50b50
570  #sd=d#
571  #sd=d#
572  #sd=d#[2a.3]pLPC
573  #sd=d#TP0.787 TN0.993 FP0.007 FN0.216 ER0.028 RC0.784 PR0.922 F0.847 n6300 k46 pP1F2x23G3x0.5m0N60b
50a1.6R1lx0sdd 843.641s(0:14:03.640)../../12voicedata_ueki_all_k2015R1_Ku20omp2
```

574 #sd=d##TP0.794 TN0.992 FP0.008 RC0.206 ER0.028 FN0.912 F0.849 n6300 k46 pP1F2x23G3x0.5m0N50b
50a1.6R11x0sds 743.281s(0:12:23.280)../../12voicedata_ueki_all_k2015R1_Ku20omp2**
575 #sd=d##TP0.786 TN0.992 FP0.008 RC0.214 ER0.028 FN0.918 F0.847 n6300 k46 pP1F2x23G3x0.5m0N48b
50a1.6R11x0sds 719.391s(0:11:59.391)../../12voicedata_ueki_all_k2015R1_Ku20omp2
576 #sd=d##TP0.800 TN0.990 FP0.010 RC0.200 ER0.028 FN0.800 F0.848 n6300 k46 pP1F2x23G3x0.5m0N45b
577 #new MFCC @ u20@VB@win10@laptop 20210618
    python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/data/12voicedata_ueki_all_MFCC120m20m20ERl_Ku20omp5 - R 1 -mbas
2:50:1.6:1 -N 49 -sd s -sX -1 -mel 0 -nlz norm -fnerr '' -AF '' -method MFCC.20.20.22.1
578 #sd=d##TP0.854 TN0.988 FP0.012 FN0.146 ER0.031 RC0.854 PR0.924 F0.888 n4410 k21 MFCC120m20m22ElN60b50a1.6R
48.835s(0:00:48.835)
579 #sd=d##TP0.798 TN0.989 FP0.011 FN0.149 ER0.030 RC0.851 PR0.931 F0.889 n4410 k21 MFCC120m20m22ElN55b50a1.6R
46.292s(0:00:46.291)
580 #sd=d##TP0.800 TN0.989 FP0.011 FN0.143 ER0.030 RC0.857 PR0.926 F0.890 n4410 k21 MFCC120m20m22ElN51b50a1.6R
42.298s(0:00:42.297)
581 #sd=d##TP0.778 TN0.989 FP0.011 FN0.146 ER0.032 RC0.854 PR0.932 F0.891 n4410 k21 MFCC120m20m22ElN50b50a1.6R
582 #sd=d
583 #sd=d
584 #sd=d##TP0.827 TN0.989 FP0.011 FN0.154 ER0.029 RC0.846 PR0.945 F0.893 n4410 k21 MFCC120m20m22ElN49b50a1.6R
585 #sd=d##TP0.790 TN0.989 FP0.010 FN0.149 ER0.030 RC0.851 PR0.929 F0.888 n4410 k21 MFCC120m20m22ElN48b50a1.6R
586 #sd=d##TP0.841 TN0.990 FP0.010 FN0.151 ER0.030 RC0.849 PR0.935 F0.890 n4410 k21 MFCC120m20m22ElN45b50a1.6R
587 #sd=d##TP0.827 TN0.986 FP0.014 FN0.159 ER0.034 RC0.841 PR0.911 F0.875 n4410 k21 MFCC120m20m22ElN40b50a1.6R
588 ############
589 #new2 @susanoo 20210618
590 #MFCC same result as "#new MFCC @ u20@VB@win10@laptop 20210618" below
591 #TP0.854 TN0.988 FP0.012 FN0.146 ER0.031 RC0.854 PR0.924 F0.888 n4410 k21 MFCC120m20m22ElN60b50a1.6R
592 #TP0.841 TN0.990 FP0.010 FN0.122 ER0.026 RC0.878 PR0.925 F0.907 n4410 k42 MFCC120m20m22ElN70b50a1.6R
593 #TP0.851 TN0.990 FP0.010 FN0.127 ER0.026 RC0.873 PR0.940 F0.905 n4410 k42 MFCC120m20m22ElN80b50a1.6R
594 AFM=~/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20omp7/MFCC120m20m22E1
595 python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
596
597 python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr /home/kuro/data/12voicedata_ueki_all_CAN2k8N50a0.7b20R1_Ku20omp6
-R 1 -RX 0 -mbas 2:50:1.6:1 -sd s -N 70 -sX -1 -mel 0 -nlz norm -fnerr '' -AF '' -method CAN2+PD,8,50,
2:0.7:1:20,2,23,3,0,5,0
598 #TP0.781 TN0.979 FP0.021 FN0.219 ER0.049 RC0.781 PR0.859 F0.818 n4410 k46 pP1F2x23G3x0.5m0N70b50a1.6
599 AFC=~/data/12voicedata_ueki_all_CAN2k8N50a0.7b20R1_Ku20omp6/pP1F2x23G3x0.5m0
600 #result of cmd="oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san
:si:go:roku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr /home/kuro/data/12voicedata_ueki_all_CAN2k8N50a0.7b20R1_
Ku20omp7 -R 1 -RX 0 -mbas 2:50:1.6:1 -sd s -N 70 -sX -1 -mel 0 -nlz 1 -lx 0 -ow 1 -AF -- -method CAN2
+PD,8,50,2:0.7:1:20,2,23,3,0,5,0 "
603 AFM=~/data/12voicedata_ueki_all_CAN2k8N50a0.7b20R1_Ku20omp7/pP1F2x23G3x0.5m0
604 #TP0.759 TN0.980 FP0.020 FN0.241 ER0.051 RC0.759 PR0.807 F0.807 n4410 k46 pP1F2x23G3x0.5m0N70b50a1.6
605 #TP0.876 TN0.990 FP0.010 FN0.124 ER0.026 RC0.876 PR0.934 F0.904 n4410 k67 pP1F2x23G3x0.5m0N70b50a1.6
606 #???AFM=/home/kuro/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20omp5/MFCC120m20m22E1
607 #???#python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:
go:roku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20om
p5 -R 1 -mbas 2:50:1.6:1 -N 60 -sd s -sX -1 -mel 0 -nlz norm -fnerr '' -AF '' -method MFCC.20,20,22,1
608 #???#AFM=/home/kuro/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20omp5/MFCC120m20m22E1
609 #???##TP0.889 TN0.993 FN0.007 FP0.007 ER0.022 RC0.889 PR0.956 F0.921 n4410 k21 MFCC120m20m22ElN40b50
a1.6R11x0sds 36.015s(0:00:36.014)
610 #???##TP0.897 TN0.993 FN0.007 FP0.007 ER0.023 -AF AFM 0 -nlz 1 -lx 0 -ow 1 -AF -method CAN2+PD,8,50,2
a1.6R11x0sds 39.340s(0:00:39.340)
611 #???##TP0.900 TN0.992 FP0.008 FN0.100 ER0.021 RC0.900 PR0.950 F0.924 n4410 k21 MFCC120m20m22ElN60b50
a1.6R11x0sds 63.763s(0:01:03.762)
612 #???##TP0.898 TN0.992 FP0.008 FN0.102 ER0.022 RC0.898 PR0.946 F0.922 n4410 k21 MFCC120m20m22ElN70b50
a1.6R11x0sds 47.365s(0:00:47.365)
613 #???#
614 #???##TP0.911 TN0.992 FP0.008 FN0.089 ER0.019 RC0.911 PR0.952 F0.931 n4410 k42 MFCC120m20m22ElN60b50
a1.6R11x0sds 60.366s(0:01:00.366) -AF $AFM
615 #???##TP0.905 TN0.992 FP0.008 FN0.095 ER0.020 RC0.905 PR0.950 F0.927 n4410 k63 MFCC120m20m22ElN60b50
a1.6R11x0sds 85.015s(0:01:25.015) -AF $AFM=$AFM
616
617 #new LPC+SE 20210618
618 python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/data/12voicedata_ueki_all_LPCk2015R1_Ku20omp5
.6:1 -N 60 -sd s -sX -1 -mel 0 -nlz norm -fnerr '' -AF '' -method LPC+SE.20,5,sC.120
619 #TP0.681 TN0.973 FP0.027 FN0.319 ER0.069 RC0.681 PR0.806 F0.738 n4410 k120 sCns120N60b50a1.6R11x0sds
208.188s(0:03:28.188) ~/data/12voicedata_ueki_all_LPCk2015R1_Ku20omp5

620 AFL=~/data/12voicedata_ueki_all_LPCk2015R1_Ku20omp5/sCns120
621 #TP0.678 TN0.972 FP0.028 FN0.322 ER0.070 RC0.678 PR0.800 F0.734 n4410 k240 sCns120N60b50a1.6R11x0sds
671.759s(0:11:11.758) -AF $AFL
623 #new MFCC @ u20@VB@win10@laptop 20210618
624 python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20omp5 -R 1 -mbas
2:50:1.6:1 -N 49 -sd s -sX -1 -mel 0 -nlz norm -fnerr '' -AF '' -method MFCC.20.20.22.1
625 #TP0.854 TN0.988 FP0.012 FN0.146 ER0.031 RC0.854 PR0.924 F0.888 n4410 k21 MFCC120m20m22ElN60b50a1.6R
48.835s(0:00:48.835)
626 #TP0.851 TN0.989 FP0.011 FN0.149 ER0.030 RC0.851 PR0.931 F0.889 n4410 k21 MFCC120m20m22ElN55b50a1.6R
46.292s(0:00:46.291)
627 #TP0.857 TN0.989 FP0.011 FN0.143 ER0.030 RC0.857 PR0.926 F0.890 n4410 k21 MFCC120m20m22ElN51b50a1.6R
42.298s(0:00:42.297)
628 #TP0.854 TN0.990 FP0.010 FN0.146 ER0.029 RC0.854 PR0.932 F0.891 n4410 k21 MFCC120m20m22ElN50b50a1.6R
43.241s(0:00:43.240)
629 #TP0.846 TN0.992 FP0.008 FN0.154 ER0.029 RC0.846 PR0.945 F0.893 n4410 k42 MFCC120m20m22ElN50b50a1.6R
43.305s(0:00:43.305)***
630 #TP0.851 TN0.990 FP0.010 FN0.149 ER0.030 RC0.851 PR0.929 F0.888 n4410 k42 MFCC120m20m22ElN48b50a1.6R
42.117s(0:00:42.117)
631 #TP0.849 TN0.990 FP0.010 FN0.151 ER0.030 RC0.849 PR0.935 F0.890 n4410 k42 MFCC120m20m22ElN45b50a1.6R
41.786s(0:00:41.785)
632 #TP0.841 TN0.986 FP0.014 FN0.159 ER0.034 RC0.841 PR0.911 F0.875 n4410 k42 MFCC120m20m22ElN40b50a1.6R
39.523s(0:00:39.522)
633 AFM=~/data/12voicedata_ueki_all_MFCC120m20m20ER1_Ku20omp5/MFCC120m20m22E1
634
635 #TP0.863 TN0.988 FP0.012 FN0.137 ER0.029 RC0.863 PR0.925 F0.893 n4410 k42 MFCC120m20m22ElN50b50a1.6
56.553s(0:00:56.530)
636 #TP0.859 TN0.989 FP0.011 FN0.141 ER0.029 RC0.859 PR0.931 F0.893 n4410 k42 MFCC120m20m22ElN60b50a1.6R
637 #TP0.878 TN0.990 FP0.010 FN0.122 -AF ${AFM}**? RC0.878 PR0.939 F0.907 n4410 k67 MFCC120m20m22ElN70b50a1.6R
65.41ls(0:01:05.415)
638 #TP0.873 TN0.991 FP0.009 FN0.127 -AF ${AFM}**? RC0.873 PR0.940 F0.905 n4410 k67 MFCC120m20m22ElN80b50a1.6R
70.600s(0:01:10.600) -AF ${AFM}**?
639 #TP0.883 TN0.993 FP0.007 FN0.117 ER0.023 RC0.883 PR0.952 F0.916 n4410 k155 MFCC120m20m22ElN60b50a1.6
76.934s(0:01:16.934) -AF ${AFM}
640 AFM= 407.801s(0:06:47.800)-AF ${AFM}:${AFM}#??irregular? RC0.786 PR0.913 F0.845 n4410 k141 MFCC120m20m22ElN70b50a1.6
407.801s(0:06:47.800)-AF ${AFM}#??irregular?
641 #TP0.786 TN0.988 FP0.012 FN0.214 ER0.041 RC0.786 PR0.913 F0.845 n4410 k141 MFCC120m20m22ElN70b50a1.6
300.601s(0:05:00.601)-AF $AFL N=70
642 #TP0.800 TN0.989 FP0.011 FN0.200 ER0.038 RC0.800 PR0.923 F0.857 n4410 k141 MFCC120m20m22ElN80b50a1.6
390.498s(0:06:30.498)-AF $AFL
643 #TP0.779 TN0.989 FP0.011 FN0.221 ER0.041 RC0.779 PR0.919 F0.844 n4410 k141 MFCC120m20m22ElN90b50a1.6
427.209s(0:07:07.209)-AF $AFL
644
645 AFC=~/data/12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp2/pP1F2x23G3x0.5m0 #(train_xy.dat) AF#2
646 #TP0.875 TN0.991 FP0.009 FN0.125 ER0.024 RC0.875 PR0.948 F0.910 n4410 k67 MFCC120m20m22ElN60b50a1.6R
102.241s(0:01:42.240) -AF $AFC N60
647 #TP0.876 TN0.991 FP0.009 FN0.124 ER0.025 RC0.876 PR0.942 F0.908 n4410 k67 MFCC120m20m22ElN70b50a1.6R
116.139s(0:01:56.138) -AF $AFC N70
648 #TP0.876 TN0.993 FP0.007 FN0.124 ER0.024 RC0.876 PR0.953 F0.913 n4410 k67 MFCC120m20m22ElN80b50a1.6R
127.024s(0:02:07.023) -AF $AFC N80 ***
649 #TP0.878 TN0.992 FP0.008 FN0.122 ER0.024 RC0.878 PR0.950 F0.913 n4410 k67 MFCC120m20m22ElN85b50a1.6R
119.521s(0:01:59.520) -AF $AFC N80 ***
650 #TP0.879 TN0.992 FP0.008 FN0.121 ER0.024 RC0.879 PR0.947 F0.912 n4410 k67 MFCC120m20m22ElN90b50a1.6R
137.237s(0:02:17.237) -AF $AFC N90
651
652 ##
653 #TP0.756 TN0.979 FP0.021 FN0.244 ER0.053 RC0.756 PR0.800 F0.803 n4410 k46 pP1F2x23G3x0.5m0N70b50a1.6
503.182s(0:08:23.181) 12voicedata_ueki_all_CAN2k8N50a0.7b20R1_Ku20omp5
654 #TP0.800 TN0.983 FP0.017 FN0.200 ER0.043 RC0.800 PR0.884 F0.840 n4410 k46 pP1F2x23G3x0.5m0N70b50a1.6
180.333s(0:03:00.333) 12voicedata_ueki_all_k2015R1_Ku20omp5 20210617 laptop
655 AF=~/data/12voicedata_ueki_all_k2015R1_Ku20omp5/sCns120 (train_xy.dat)
#MFCC
656 python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/home/kuro/data/12voicedata_ueki_all_l20m20m20ER1_Ku20omp5 **susanoo
:0.7:1:20,2,23,3,0,5,0
658 AFM=/home/kuro/data/12voicedata_ueki_all_CAN2k8N50a0.7b20R1_Ku20omp2/pP1F2x23G3x0.5m0
659 -method CAN2+PD,8,50,2:0.7:1:20,2,23,3,0,5,0 "
660
662 #old involves bug?
663 #TP0.681 TN0.973 FP0.027 FN0.319 ER0.069 RC0.681 PR0.806 F0.738 n4410 k120 sCns120N60b50a1.6R11x0sds
20210617 laptop
664 AF=~/data/12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp2/pP1F2x23G3x0.5m0 (train_xy.dat)
665 #MFCC
666 #TP0.900 TN0.992 FP0.008 FN0.100 ER0.021 RC0.900 PR0.950 F0.924 n4410 k21 MFCC120m20m22ElN60b50a1.6R
190.403s(0:03:10.403) 12voicedata_ueki_all_l20m20m20ER1_Ku20omp5 **susanoo
667 AF#3
740) AF=~/data/12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp2/pP1F2x23G3x0.5m0 #(train_xy.dat) AF#2
669 #(train_xy.dat):ER0.068 F0.

```
670  AF=~/data/12voicedata_ueki_all_120m20n20ERl_Ku20omp5/MFCC120m20n22El        #(train_xy.dat:ERO.021 F0.
924)    AF#1
671  python oob4speakerdigit+RX_20210617.py -sp fhs:fms:mkk:mko:mmt:mmh:mym -tx zero:ichi:ni:san:si:go:ro
     ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ~/data/12voicedata_ueki_all_120m20n20ERl_Ku20omp5 -R l -mbas 2:50
     :1.6:1 -N 60 -sd s -sX -1 -mel 0 -nlz norm -fnerr '' -AF $AF -method MFCC.20,20,22,1
673
674  #TPO.900 TNO.992 FP0.008 FNO.100 ERO.021 RCO.900 PRO.950 F0.924 n4410 k21 MFCCl20m20n22ElN60b50al.6R
llx0sds 190.403s(0:03:10.403) AF''
675  #TPO.919 TNO.992 FP0.008 FNO.081 ERO.018 RCO.919 PRO.952 F0.935 n4410 k43 MFCCl20m20n22ElN60b50al.6R
llx0sds 32466.880s(9:01:06.879) AF#1
676  #TPO.859 TNO.992 FP0.008 FNO.141 ERO.027 RCO.859 PRO.947 F0.901 n4410 k68 MFCCl20m20n22ElN60b50al.6R
llx0sds 32503.758s(9:01:43.757) AF#2
677  #TPO.849 TNO.992 FP0.008 FNO.151 ERO.028 RCO.849 PRO.947 F0.895 n4410 k142 MFCCl20m20n22ElN60b50al.6
Rllx0sds 264.019s(0:04:24.018) AF#3
```

```
719
720  #TPO.825 TNO.989 FP0.011 FNO.175 ERO.034 RCO.825 PRO.924 F0.872 n4410 k92 pPlF2x23G3x0.5mON80b50al.6
ll_k2015Rl_Ku20omp3/pPlF2x23G3x0.../.../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp3+.../.../12voicedata_ueki_a
721  #TPO.829 TNO.989 FP0.011 FNO.171 ERO.034 RCO.829 PRO.926 F0.874 n4410 k92 pPlF2x23G3x0.5mON70b50al.6
```

```
[Page 13 — dense log output: lines numbered 759–797, e.g.]
759  #TP0.683 TN0.983 FP0.017 FN0.317 ER0.060 RC0.683 PR0.869 F0.764 n4410 k46 pP1F2x23G3x0.5mON50b50a1.6
   Rllx0sds 451.517s(0:07:31.517)../../l2voicedata_ueki_all_k2015Rl_Ku20omp2susanoo
760  #TP0.670 TN0.983 FP0.017 FN0.330 ER0.062 RC0.670 PR0.865 F0.755 n4410 k46 pP1F2x23G3x0.5mON60b50a1.6
   ...
790  ##
791  ####  ####result of speed-compare to here
...
797  #TP0.632 TN0.973 FP0.027 FN0.368 ER0.076 RC0.632 PR0.794 F0.704 n4410 k46 pPcF2x23G3x0.5mON110b50a1.
```

```
[Page 14 — dense log output: lines numbered 798–845, e.g.]
798  #TP0.624 TN0.974 FP0.026 PR0.376 ER0.076 RC0.624 PR0.799 F0.701 n4410 k46 pPcF2x23G3x0.5mON100b50a1.
799  #Rllx0sds 762.992s(0:13:42.992)../../l2voicedata_ueki_all_k810RlN50a0.7b20_Ku20omp3 tspomp@u2@laptop***!!!-
...
830  result at ../tspomp/
831  #[2b.2]
...
845  #TP0.662 TN0.971 FP0.029 FN0.338 ER0.073 RC0.662 PR0.794 F0.722 n4410 k120 FDsCns120ls10N80b50a1.6R1
```

```
846  #TP0.686 TN0.970 FP0.030 FN0.314 ER0.070 RC0.686 PR0.793 F0.735 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2160.057s(0:36:00.056).../12voicedata_ueki_all_k1915R1_Ku20omp ******
847  #TP0.683 TN0.971 FP0.029 FN0.317 ER0.070 RC0.683 PR0.799 F0.736 n4410 k120 FDsCns1201s10N60b50a1.6R1
1x0sds 1562.129s(0:26:02.128).../12voicedata_ueki_all_k1915R1_Ku20omp *******
848  #TP0.670 TN0.968 FP0.032 FN0.330 ER0.075 RC0.670 PR0.776 F0.719 n4410 k120 FDsCns1201s10N50b50a1.6R1
1x0sds 1465.707s(0:24:25.706).../12voicedata_ueki_all_k1915R1_Ku20omp
849
850  #TP0.657 TN0.972 FP0.028 FN0.343 ER0.073 RC0.657 PR0.796 F0.720 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1725.941s(0:28:45.941).../12voicedata_ueki_all_k2111R1_Ku20omp
851  #TP0.673 TN0.973 FP0.027 FN0.327 ER0.069 RC0.673 PR0.808 F0.734 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2169.067s(0:36:09.067).../12voicedata_ueki_all_k2015R1_Ku20omp
852  #TP0.686 TN0.970 FP0.030 FN0.314 ER0.070 RC0.686 PR0.793 F0.735 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2160.057s(0:36:00.056).../12voicedata_ueki_all_k1915R1_Ku20omp *******
853  #TP0.652 TN0.972 FP0.028 FN0.348 ER0.073 RC0.652 PR0.797 F0.717 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2158.821s(0:35:58.821).../12voicedata_ueki_all_k1815R1_Ku20omp
854  #TP0.665 TN0.969 FP0.031 FN0.335 ER0.074 RC0.665 PR0.782 F0.719 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1726.696s(0:28:46.695).../12voicedata_ueki_all_k1914R1_Ku20omp
855  #TP0.686 TN0.970 FP0.030 FN0.314 ER0.070 RC0.686 PR0.793 F0.735 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2160.057s(0:36:00.056).../12voicedata_ueki_all_k1915R1_Ku20omp *******
856  #TP0.668 TN0.973 FP0.027 FN0.332 ER0.070 RC0.668 PR0.807 F0.731 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2160.057s(0:36:00.056).../12voicedata_ueki_all_k1915R1_Ku20omp *******
857  #TP0.656 TN0.971 FP0.029 FN0.344 ER0.074 RC0.656 PR0.790 F0.716 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2148.451s(0:35:48.450).../12voicedata_ueki_all_k1916R1_Ku20omp ******
858  #TP0.646 TN0.973 FP0.027 FN0.354 ER0.073 RC0.646 PR0.800 F0.715 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1725.841s(0:28:45.840).../12voicedata_ueki_all_k1917R1_Ku20omp
859
860  #TP0.657 TN0.972 FP0.028 FN0.343 ER0.073 RC0.657 PR0.796 F0.720 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1708.405s(0:28:28.404).../12voicedata_ueki_all_k2110R1_Ku20omp
861  #TP0.663 TN0.974 FP0.026 FN0.337 ER0.070 RC0.663 PR0.809 F0.729 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2156.793s(0:35:56.792).../12voicedata_ueki_all_k2016R1_Ku20omp
862  #TP0.668 TN0.973 FP0.027 FN0.332 ER0.070 RC0.668 PR0.807 F0.731 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2148.451s(0:35:48.450).../12voicedata_ueki_all_k1916R1_Ku20omp ******
863  #TP0.646 TN0.973 FP0.027 FN0.354 ER0.073 RC0.646 PR0.800 F0.715 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1722.666s(0:28:42.666).../12voicedata_ueki_all_k1816R1_Ku20omp
864  #TP0.671 TN0.972 FP0.028 FN0.329 ER0.071 RC0.671 PR0.798 F0.729 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2163.405s(0:36:03.405).../12voicedata_ueki_all_k1716R1_Ku20omp
865  #TP0.649 TN0.970 FP0.030 FN0.351 ER0.076 RC0.649 PR0.781 F0.709 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2135.411s(0:35:35.411).../12voicedata_ueki_all_k1616R1_Ku20omp/susanoo*****
866  #TP0.651 TN0.967 FP0.033 FN0.349 ER0.078 RC0.651 PR0.768 F0.704 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1693.000s(0:28:12.999).../12voicedata_ueki_all_k1516R1_Ku20omp laptop***
867  #TP0.654 TN0.966 FP0.034 FN0.346 ER0.078 RC0.654 PR0.762 F0.704 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1696.719s(0:28:16.719).../12voicedata_ueki_all_k1416R1_Ku20/
868  #TP0.624 TN0.971 FP0.029 FN0.376 ER0.079 RC0.624 PR0.780 F0.693 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1712.478s(0:28:32.477).../12voicedata_ueki_all_k1316R1_Ku20omp
869
870  #TP0.648 TN0.966 FP0.034 FN0.352 ER0.079 RC0.648 PR0.763 F0.700 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1706.942s(0:28:26.941).../12voicedata_ueki_all_k1516R1_Ku20omp/susanoo
871  #TP0.651 TN0.967 FP0.033 FN0.349 ER0.078 RC0.651 PR0.768 F0.704 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1693.000s(0:28:12.999).../12voicedata_ueki_all_k1516R1_Ku20omp laptop***
872  #TP0.610 TN0.967 FP0.033 FN0.390 ER0.084 RC0.610 PR0.754 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1693.000s(0:28:12.999).../12voicedata_ueki_all_k1517R1_Ku20omp
873  #TP0.633 TN0.969 FP0.031 FN0.367 ER0.079 RC0.633 PR0.773 F0.696 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 2174.144s(0:36:14.144).../12voicedata_ueki_all_k1518R1_Ku20omp
874  #############################
1x0sds 2134.185s(0:35:34.184).../12voicedata_ueki_all_k1518R1_Ku20omp
875  ################################
876  #[2a.3]
877  #best result? N40 for k810R1N50a0.7b20
878  #TP0.808 TN0.988 FP0.012 FN0.192 ER0.037 RC0.808 PR0.920 F0.861 n4410 k166 pP1F2x23G3x0.5mON40b50a1.
6R1lx0sds 9267.110s(2:34:27.110)  k810R1N50a0.7b20_Ku20+k15120R1_Ku20/FDsCns1201s10***
879  #TP0.786 TN0.988 FP0.012 FN0.214 ER0.040 RC0.786 PR0.918 F0.847 n4410 k166 pP1F2x23G3x0.5mON60b50a1.
6R1lx0sds -20549.172s(-1 day, 18:17:30.828) k810R1N50a0.7b20_Ku20+k15120R1_Ku20/FDsCns1201s10
880  #TP0.795 TN0.989 FP0.011 FN0.205 ER0.038 RC0.795 PR0.855 F0.819 n4410 k46 pP1F2x23G3x0.5mON40b50a1.6
6R1lx0sds 10092.462s(2:48:12.462) k810R1N50a0.7b20_Ku20+k15120R1_Ku20/FDsCns1201s10
881  #TP0.781 TN0.979 FP0.021 FN0.219 ER0.049 RC0.781 PR0.862 F0.819 n4410 k46 pP1F2x23G3x0.5mON40b50a1.6
R6llx0sds 1575.760s(0:26:15.760)  k810R1N50a0.7b20_Ku20 laptop
882  #TP0.781 TN0.979 FP0.021 FN0.219 ER0.049 RC0.781 PR0.862 F0.862 n4410 k46 pP1F2x23G3x0.5mON40b50a1.6
R6llx0sds 1527.638s(0:25:27.638)  k810R1N50a0.7b20_Ku20 susanoo
883
884  #TP0.740 TN0.991 FP0.009 FN0.260 ER0.045 RC0.740 PR0.930 F0.824 n4410 k166 pP1F2x23G3x0.5mON80b50a0.
7R1lx0sds 6458.962s(1:47:38.962) k810R1N50a0.7b20_Ku20+k15120R1_Ku20/FDsCns1201s10
885  #TP0.741 TN0.993 FP0.007 FN0.259 ER0.043 RC0.741 PR0.943 F0.830 n4410 k166 pP1F2x23G3x0.5mON40b50a0.
7R1lx0sds 4486.347s(1:14:46.346) k810R1N50a0.7b20_Ku20/FDsCns1201s10
886
887  #TP0.727 TN0.987 FP0.013 FN0.273 ER0.050 RC0.727 PR0.900 F0.804 n4410 k46 pP1F2x23G3x0.5mON40b50a0.7
Rlllx0sds 833.882s(0:13:53.822)  k810R1N50a0.7b20_Ku20 laptop
889  #TP0.773 TN0.984 FP0.016 FN0.227 ER0.046 RC0.773 PR0.889 F0.827 n4410 k46 pP1F2x23G3x0.5mON60b100a1.
0Rlllx0sds 2935.397s(0:48:55.397) k810R1N50a0.7b20_Ku20 susanoo
890
891  #[2b.2]
892  #TP0.611 TN0.967 FP0.033 FN0.389 ER0.083 RC0.611 PR0.677 F0.677 n4410 k120 FDsCns1201s10N80b50a0.6R1
893  #TP0.611 TN0.967 FP0.033 FN0.389 ER0.083 RC0.611 PR0.677 F0.677 n4410 k120 FDsCns1201s10N80b50a1.6R1
1x0sds 8034.855s(2:13:54.855).../12voicedata_ueki_all_k15120R1_Ku20/****-
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894  #Exp.2
895  #TP0.613 TN0.963 FP0.037 FN0.387 ER0.087 RC0.613 PR0.732 F0.667 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7362.603s(2:02:42.603).../12voicedata_ueki_all_k14120R1_Ku20 laptop
896  #TP0.608 TN0.967 FP0.033 FN0.392 ER0.084 RC0.608 PR0.763 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7318.858s(2:01:58.857).../12voicedata_ueki_all_k15120R1_Ku20 ***?
897  #TP0.608 TN0.967 FP0.033 FN0.392 ER0.084 RC0.608 PR0.755 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7263.458s(2:01:03.457).../12voicedata_ueki_all_k16120R1_Ku20 susanoo
898  #TP0.654 TN0.966 FP0.034 FN0.346 ER0.078 RC0.654 PR0.762 F0.704 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 1698.940s(0:28:18.939).../12voicedata_ueki_all_k1416R1_Ku20/ tspomp1
900  #Exp.1
901  #TP0.625 TN0.966 FP0.034 FN0.375 ER0.083 RC0.625 PR0.753 F0.683 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7283.494s(2:01:23.493).../12voicedata_ueki_all_k1514R1_Ku20
902  #TP0.648 TN0.966 FP0.034 FN0.352 ER0.079 RC0.648 PR0.763 F0.700 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7341.872s(2:02:21.872).../12voicedata_ueki_all_k1515R1_Ku20
903  #TP0.651 TN0.967 FP0.033 FN0.349 ER0.078 RC0.651 PR0.768 F0.704 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7380.096s(2:03:00.095).../12voicedata_ueki_all_k1516R1_Ku20 ***********
904  #TP0.610 TN0.967 FP0.033 FN0.390 ER0.084 RC0.610 PR0.754 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7331.694s(2:02:11.693).../12voicedata_ueki_all_k1517R1_Ku20
905  #TP0.633 TN0.969 FP0.031 FN0.367 ER0.079 RC0.633 PR0.773 F0.696 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7282.548s(2:02:22.548).../12voicedata_ueki_all_k1518R1_Ku20
906  #TP0.629 TN0.967 FP0.033 FN0.371 ER0.081 RC0.629 PR0.763 F0.689 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7280.187s(2:01:20.187).../12voicedata_ueki_all_k1510R1_Ku20 ********
907  #TP0.608 TN0.967 FP0.033 FN0.392 ER0.084 RC0.608 PR0.763 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7318.858s(2:01:58.857).../12voicedata_ueki_all_k15120R1_Ku20 ***?ER&F
908  #TP0.595 TN0.961 FP0.039 FN0.405 ER0.091 RC0.595 PR0.716 F0.650 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7386.353s(2:03:06.352).../12voicedata_ueki_all_k1512R1_Ku20
909  #TP0.614 TN0.965 FP0.035 FN0.386 ER0.085 RC0.614 PR0.746 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7336.309s(2:02:16.309).../12voicedata_ueki_all_k1513R1_Ku20 ***?
910  #TP0.576 TN0.967 FP0.033 FN0.424 ER0.089 RC0.576 PR0.742 F0.649 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7257.713s(2:00:57.712).../12voicedata_ueki_all_k1514R1_Ku20/ susanoo
911
912  #TP0.594 TN0.963 FP0.037 FN0.406 ER0.090 RC0.594 PR0.726 F0.653 n4410 k120 FDsCns1201s10N60b50a1.6R1
1x0sds 6756.294s(1:52:36.294).../12voicedata_ueki_all_k1512R1_Ku20
913
914  #TP0.613 TN0.963 FP0.037 FN0.387 ER0.087 RC0.613 PR0.732 F0.667 n4410 k120 FDsCns1201s10N70b50a1.7R1
1x0sds 7362.603s(2:02:42.603).../12voicedata_ueki_all_k14120R1_Ku20/ laptop
915
916
917  #TP0.611 TN0.962 FP0.038 FN0.389 ER0.083 RC0.611 PR0.758 F0.677 n4410 k120 FDsCns1201s10N80b50a0.7R1
1x0sds 8034.855s(2:13:54.855).../12voicedata_ueki_all_k15120R1_Ku20/***
918
919  #TP0.576 TN0.963 FP0.037 FN0.424 ER0.093 RC0.576 PR0.715 F0.638 n4410 k120 FDsCns1201s10N40b50a1.6R1
1x0sds 5529.830s(1:32:09.829).../12voicedata_ueki_all_k15120R1_Ku20/
920  #TP0.594 TN0.963 FP0.037 FN0.406 ER0.090 RC0.594 PR0.726 F0.653 n4410 k120 FDsCns1201s10N60b50a1.6R1
1x0sds 6673.019s(1:51:13.019).../12voicedata_ueki_all_k15120R1_Ku20/
921  #TP0.608 TN0.967 FP0.033 FN0.392 ER0.084 RC0.608 PR0.757 F0.674 n4410 k120 FDsCns1201s10N70b50a1.6R1
1x0sds 7318.858s(2:01:58.857).../12voicedata_ueki_all_k15170R1_Ku20
922
923
924
925  #TP0.543 TN0.976 FP0.024 FN0.457 ER0.086 RC0.543 PR0.788 F0.643 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3911.969s(1:05:11.969).../12voicedata_ueki_all_k15130R1_Ku20
926  #TP0.544 TN0.979 FP0.021 FN0.456 ER0.083 RC0.544 PR0.813 F0.652 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3792.326s(1:03:12.325).../12voicedata_ueki_all_k15140R1_Ku20
927  #TP0.557 TN0.979 FP0.021 FN0.443 ER0.081 RC0.557 PR0.812 F0.661 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3912.850s(1:05:12.849).../12voicedata_ueki_all_k15150R1_Ku20 ***
928  #TP0.549 TN0.977 FP0.023 FN0.451 ER0.084 RC0.549 PR0.801 F0.652 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3920.442s(1:05:20.441).../12voicedata_ueki_all_k15160R1_Ku20
929  #TP0.549 TN0.979 FP0.021 FN0.451 ER0.082 RC0.549 PR0.812 F0.655 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3782.130s(1:03:02.130).../12voicedata_ueki_all_k15170R1_Ku20
930
931
932  #TP0.544 TN0.975 FP0.025 FN0.456 ER0.086 RC0.544 PR0.785 F0.643 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 3782.384s(1:03:02.384).../12voicedata_ueki_all_k15140R1_Ku20/
933
934
935  #TP0.579 TN0.979 FP0.021 FN0.421 ER0.078 RC0.579 PR0.818 F0.678 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 4048.685s(1:07:28.684).../12voicedata_ueki_all_k15120R1_Ku20/***
936
937
938
939  #TP0.573 TN0.980 FP0.020 FN0.427 ER0.078 RC0.573 PR0.828 F0.677 n4410 k120 FDsCns1201s10N60b50a0.7R1
1x0sds 3458.408s(0:57:38.408).../12voicedata_ueki_all_k15120R1_Ku20/
940  #TP0.579 TN0.979 FP0.021 FN0.421 ER0.078 RC0.579 PR0.818 F0.678 n4410 k120 FDsCns1201s10N70b50a0.7R1
1x0sds 4048.685s(1:07:28.684).../12voicedata_ueki_all_k15120R1_Ku20/***
941  #TP0.579 TN0.977 FP0.023 FN0.421 ER0.079 RC0.579 PR0.809 F0.675 n4410 k120 FDsCns1201s10N80b50a0.7R1
1x0sds 4328.433s(1:12:08.433).../12voicedata_ueki_all_k15120R1_Ku20/
942
943  #TP0.741 TN0.993 FP0.007 FN0.259 ER0.043 RC0.741 PR0.943 F0.830 n4410 k166 pP1F2x23G3x0.5mON40b50a0.7R1
1x0sds 4477.302s(1:14:37.302) k15120R1_Ku20+k810R1N50a0.7b20_Ku20/pP1F2x23G3x0.5mO
944  #TP0.743 TN0.993 FP0.007 FN0.257 ER0.042 RC0.743 PR0.949 F0.833 n4410 k166 pP1F2x23G3x0.5mON60b50a0.
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945  7Rllx0sds 5414.366s(1:30:14.366) k810R1N50a0.7b20_Ku20+k15120R1_Ku20/FDsCns120ls10
946  #######
947  #
948  ###
949  #######
950  #20210208
951  #######
952  #######
953  ケプストラム分析によるスペクトル包絡の極は大きさが1以下になるが、
954  #LPC分析によるスペクトル包絡は大きさが1より大きい極がでる? k=18 in [cf3] 極分布
955  #[cf3] https://ahcweb01.naist.jp/lecture/2016/sp/material/sp-v2.pdf
956  #check 20210208
957  export dl=../../12voicedata_ueki_all;
958  export dr${dl}_k8;
959  export dn=${dl}_n;
960  export R=1 S=nmt L=8 D=ichi k=56 k=15 t=0 t=-1000 #check 20210208  OK with k<=43, NG with k>=44
961  #python lpcspectrumenvelope.py -k $k -1 20 -yin $dn/${S}/${S}$/${S}$/${L}].dat -nDisp -1  #'ichi'
962  #python lpcspectrumenvelope.py -k $k -1 20 -yin $dn/${S}/${S}$/${S}$/${L}].dat -nDisp -1  #'ichi'
963  #python lpcspectrumenvelope.py -k $k -1 20 -yin $dn/${S}/${S}$/${S}$/${L}].dat -nDisp -1  #'ch
     i'-part  of 'ichi'
964  #python lpcspectrumenvelope.py -k $k -1 20 -yin $dn/${S}/${S}$/${S}$/${L}].dat -nDisp 37 -HW 0 #for disp enve
     lope without Hamming-Window
965  #python lpcspectrumenvelope.py -k $k -1 20 -yin $dn/${S}/${S}$/${S}$/${L}].dat -nDisp 37 -HW 1 #for disp enve
     lope with Hamming-Window
966  python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 0 -S $S -L $L -D $D -k $k
967  #python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 0 -S $S -L $L -D $D -k $k -t 600-760 #'i'-part of
     'ichi'
968  #python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 0 -S $S -L $L -D $D -k $k -t 680-760 #'i'-part of
     'ichi'
969  #python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 0 -S $S -L $L -D $D -k $k -t 0-1000 #'i'-part of
     'ichi'
970  #python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 0 -S $S -L $L -D $D -k $k -t 2500- #'chi'-part
     of 'ichi',
971  python M2PC.py -dr $dr -R $R -ow 1 -DISP 10 -dbgi 0 -S $S -L $L -D $D -k $k
972  #with k=20,17 errors
973  #
974  cat > tmp/tmp.plt <<EOF
975  set size square ; set parametric; set grid
976  set term postscript eps enhanced color; set output "tmp/tmp-eps";
977  #plot [0:2*pi][-3:3] "$dr/${S}-${D}${L}-R${R}-PC.dat" using 1:2 w p pt 6 ps 1.0 lc rgb "black"
     ," using 1:(-\$2) w p pt 6 ps 1.0 lc rgb "black", cos(t).sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*co
     s(t),2*sin(t) t "2.0" w 1 ls 1 lw 5 lc rgb "red"
978  #
979  plot [0:2*pi][-3:3] "$dr/${S}-${D}${L}-R${R}-PC.dat" using 1:2 w p pt 6 ps 1.0 lc rgb "black"
     cos(t),sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*cos(t),2*sin(t) t "2.0" w 1 ls 1 lw 5 lc rgb "red"
980  #
981  #plot [0:2*pi] "$dr/${S}-${D}${L}-R${R}-PC.dat" using 1:2 w p pt 6 ps 1.0 lc rgb "black", cos(t),sin
     (t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*cos(t),2*sin(t) t "2.0" w 1 ls 1 lw 5 lc rgb "red"
982  quit
983  EOF
984  gnuplot tmp/tmp.plt
985  gv tmp/tmp.eps&
986  #
987  #chech with k=17
988  gnuplot
989  plot "../../12voicedata_ueki_all_n/nmt-ichi8.dat" using 0:1 w 1
990  plot [0:2*pi][-3:3] "$dr/${S}-${D}${L}-R${R}-PC.dat" using 1:2 w p pt 6 ps 1.0 lc rgb "black"
991  plot [400:5601]"../../12voicedata_ueki_all_n/nmt-ichi8.dat" using 0:1 w lp pt 6
992  print (513-440)/8000.,0.009125 #sec
993  print 8000./(513-440), 109.58904109589 #110Hz
994  plot "../../12voicedata_ueki_all_k8/nmt-ichi8-R1-PC.dat" using 0:(sqrt($1**2+$2**2)) w 1
995  #
996  set parametric;set grid;set size square;
997  plot [0:2*pi][-3:3] "../../12voicedata_ueki_all_k8/nmt-ichi8-R1-PC.dat" using 1:2 w p pt 6 ps
     1.0 lc rgb "black", cos(t),sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*cos(t),2*sin(t) t "2.0" w 1 ls 1 l
     w 5 lc rgb "red"
998  #a=0.17:f=a*4000.;T=1./f;n=T*8000.;print "n=",n
999  #a=0.17:f=a*4000.;T=1./f;n=T*8000.:print "n=",n
1000 #
1001 #print 1/18.944,0.05278716216621622 #msec
1002 #[0.17*pi]:2*pi] 0.17*pi--> print 0.17*4000,680.0  #Hz
1003 #print 1./680, 0.0014705882352941 #sec
1004 #print 1/(0.17*4000)/(1/8000.), 11.764705882353529 #step
1005 #
1006 #print 74/1024.,0.072265625 #see tmp/lpcenv.txt
1007 #print 4000*74/1024,289.0625 #Hz see tmp/lpcenv.txt
1008 #print 1./289.0625, 0.0034594594594946 #sec
1009 #print 0.0034594594945946/(1/8000.),27.6756756756757 #step
1010 #
1011 set parametric;set grid;set size square;
```

```
1012 plot [0:2*pi][-3:3] "../../12voicedata_ueki_all_k8/nmt-ichi8-R1-PC.dat" using 1:2 w p pt 6 ps
     1.0 lc rgb "black", " using 1:(-\$2) w p pt 6 ps 1.0 lc rgb "black", cos(t),sin(t) t "1.0" w 1 ls 1 lw 5 lc r
     gb "green", 2*cos(t),2*sin(t) t "2.0" w 1 ls 1 lw 5 lc rgb "red"
1013 #
1014 #
1015 set grid;set size square;set parametric;plot [0:2*pi] "../../12voicedata_ueki_all_k8/nmt-ichi8-R1-PC
     .dat" using 1:2 w p pt 6 ps 1.0 lc rgb "black", cos(t),sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*cos(t)
     ,2*sin(t) t "2.0" w 1 ls 1 lw 5 lc rgb "red"
1016 #
1017 ########################################################
1018 20201210-20201225
1019 20201210-20201225
1020 #本格実験の繰り返しは、[1.1]以降。
1021 #本格実験の繰り返しは、[1.1]以降。
1022 ########################################################
1023 [0.] 代表的な、LPC次数とフレーム長は?
1024 [0.1] 代表的な、LPC次数とフレーム長は?
1025 [cf1] http://www.ieice-hbkb.org/files/02/02gun_08hen_01.pdf
1026 [cf1] 振幅スペクトルの包絡を 10~20 次の線形予測モデルで近似すること により、
1027 パラメータを減らす方法が提案されている。この方法によれば、フレーム長を 30 msec.
1028 #
1029 [cf2] https://patents.google.com/patent/JP4971351B2/ja
1030 [cf2] 1つの代表的なフレーム長は、8kHz の代表的なサンプリングレートでの160のサンプルに対応する20ミ
     リ秒である が、(160/8000Hz=20ms
1031 [cf3] https://nitech.repo.nii.ac.jp/?action=repository_action_common_download&item_id=1724&item_no=1&att
     ribute_id=12&file_no=1
1032 #
1033 --> まず、分析次数k=32、フレーム長=20ms を使って実験し、より よい結果がでると1を後で探索
1034 #
1035 [cf3] https://ahcweb01.naist.jp/lecture/2016/sp/material/sp-v2.pdf
1036 ケプストラム分析とLPC分析によるスペクトル包絡
1037 ########################
1038 [0.2] LPCスペクトル包絡を求めるプログラム
1039 #次数k=32 フレーム長 l=20 [ms]、平均パワーのしきい値 mp_th 0.4 (これ以上のパワーをもつフレームだけ係数を
     求める)  表示フレーム番号 -nDisp 5
1040 python lpcspectrumenvelope.py -yin ../../12voicedata_ueki_all_n/mym-ku10.dat -k 32 -1 20 -mp_th 0.0
     -fout tmp/LPC.dat -nDisp 5
1041 #read signal -yin and write tmp/LPC.dat
1042 ##.####
1043 [0.3] mkM20201214.py: すべての音声に対し、混合比RでC音声を合成し、(1)を使ってLPCスペクトルを求めるプロ
     グラム
1044 [0.3.1] 実行コマンド
1045 dl=~/sotu/2020/12voicedata_ueki_all;
1046 R=1 #R=1:0.8:0.6:0.4:0.2
1047 export dl=../../12voicedata_ueki_all;
1048 export R=1 #R=1:0.8:0.6:0.4:0.2
1049 export k=32 l=20 mp_th=0.0 nDisp=5 #LPC次数k フレーム長 l[ms]、平均パワー mp_th、フレーム番号 nDisp
1050 dr${dl}_LPCk${k}$${l}; mkdir -p $dr  #folder for LPC
1051 dm=${dl}_m; mkdir -p $dr  #folder for mixed speech
1052 python mkM.py -dr $dr -R $R -DISP 0 -ow 00 -k $k -1 $l -mp_th 0.0 -nDisp 5 -dbgi 1
1053 #continue #comment out this line if you do not want to see and manipulate the picture
1054 ##
1055 #python mkM20201214.py -dr $dr -R $R -DISP 0 -ow 00 -k $k -1 $l -mp_th 0.0  -nDisp 5 -dbgi 1
1056 ##echo c|python mkM20201214.py -dr $dr -R $R -DISP 0 -ow 00 -k $k -1 $l -mp_th 0.0 -nDisp 5 -dbgi
     1
1057 ###python mkM_lpc.py -dr $dr -R $R -DISP 0 -ow 00 -k $k -1 $l -mp_th 0.0 -nDisp 1
1058 ###../../12voicedata_ueki_all_Ck60120/fhs-zero1-R1-C.dat created
1059 ###rm -f nohup.out;nohup python mkM_lpc.py -dr $dr -R $R -DISP 0 -ow 1 -k 32 -1 20 -mp_th 0.0 -nDis
     p 0 -dbgi 1&
1060 [0.3.2] 結果確認
1061 ls -1 $dr/*-M.dat|wc #        698   6282   64494 #ファイルの個数確認  全部揃えば 698=700-2個
1062 wc $dr/*-M.dat #    #1列目に各音声で抽出された係数の個数
1063 #      29   957   14696 ../12voicedata_ueki_all_k8/fhs-go1-R1-M.dat
1064 ・LPC係数の確認：行と列を入れ替えて、各列が各音声のLPC係数になるようにして、各列をプロット
1065 transpose.sh ../../12voicedata_ueki_all_k8/fhs-go1-R1-M.dat > tmp.dat
1066 gnuplot
1067 plot "tmp.dat" using 0:1 w 1, "" using 0:10 w 1, "" using 0:29 w 1
1068 ########################################################
1069 [1] 前処理（データ正規化）以前の処理を同じ：#20191118  20191205 ← #20180606の再試行＋修正 の(0)--(2)
1070 #####
1071 ##
1072 #[1.01]
1073 #at can2m+/can2c
1074 #ln -s /media/sf_D_DRIVE/data/12voicedata_ueki ~/sotu/2012/12voicedata_ueki #shigeta only
1075 #ln -s /media/sf_C_DRIVE/cdata/kurolab/data/12voicedata ~/sotu/2012/12voicedata_ueki #kurogi only
1076 #
1077 #[1.0.1] リンク作成
1078 #d0=/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/
1079 #d0=~/sotu/2012/12voicedata_ueki;
1080 dl=../../12voicedata_ueki_all; mkdir -p $dl
1081 dl=../../12voicedata_ueki_all; mkdir -p $dl
1082 for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
```

```
1083  ln -s ${d0}/${d}/* ${dl}/
1084  done
1085  ###
1086  #(1.0.2)パワー正規化
1087  ###
1088  d0=~/sotu/2012/12voicedata_ueki
1089  dl=../../12voicedata_ueki_all; mkdir -p $dl
1090  dn=${dl}_n; mkdir -p $dn #save normalized speech signal
1091  log=$dn/normalize.log
1092  #echo "ymin=$ymin" > $log
1093  ymin=0
1094  for s in fhs fms mkk mko mmt mmh mym; do
1095    for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
1096      for i in 1 2 3 4 5 6 7 8 9 10; do
1097        cmd="python speechnormalize.py -yin ${d0}/${s}-${d}${i}.dat -yout ${dl}/${s}-${d}${i}.dat -ymin $ymin"
1098        echo $cmd; $cmd >> $log
1099      done
1100    done
1101  done
1102  ###
1103  #####################################
1104  #(1.1.1) 混合音声とM（LPC係数）の作成
1105  # mkM.pyですべての音声に対し、混合比RC音声を合成し   LPC係数M(l>0)またはpLPC係数M(l=0)を求める
1106  #####################################
1107  ###上の準備後、毎回この本実験はここから
1108  #copy&paste from here for step1
1109  make
1110  ###platform=SY for Shigeta and Yamochi, K for Komatsu !!!!!!!!!!!!!!!!!!!!
1111  export platform=SY #platform=K for Komatsu
1112  export platform=SY #platform=SY for Shigeta and Yamochi
1113  export platform=Su14 #platform=SY for Shigeta and ul4 for ubuntu14.04
1114  export platform=Su20 #platform=SY for Shigeta and u20 for ubuntu20.04
1115  export platform=Ku14 # ul4 for ubuntu14.04 20210419
1116  export platform=Ku20 # u20 for ubuntu20.04 20210420
1117  #####
1118  # export platform=Ku20- # u20 for ubuntu20.04 20210420
1119  #####
1120  export d0=~/sotu/2012/12voicedata_ueki
1121  export dl=../../12voicedata_ueki_all; mkdir -p $dl
1122  export dn=${dl}_n; mkdir -p $dn #save normalized speech signal
1123  "export dm=${dl}_n; mkdir -p $dm    #folder for saving mixed speech
1124  #(1.1a and 1.1b) 小松君は不足ファイルを置き換えて,fnerrを空集合にする，矢持さん，重田君は元に戻す。
1125  #####
1126  #####################
1127  #####
1128  export OnlyEnvSet=1 #これを1にして以下を実行すると、データは処理しないで、環境変数だけ設定する
1129  export OnlyEnvSet=0 #これを0にして以下を実行すると、データは処理しないで、環境変数だけ設定する
1130  #データで実験する。
1131  if [ "${platform:0:1}" = "S" ];then
1132  ## [1.1a] 矢持さん、重田君は次を実行する (Yamochi,Shigeta)
1133  ## mmt-san2と fhs-hachi5が不足しています, L=1:2:3:4:5:6:7:8:9:10 nf=$((7*10*10-2))=698個のデータで実験する
1134  ##
1135  export L=1:2:3:4:5:6:7:8:9:10 nf=$((7*10*10-2)) fnerr=mmt-san2:fhs-hachi5
1136  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1137  export S=fhs:fms:mkk:mko:mmt:mmh:mym
1138  #rm $dn/mmt-san2.dat $dn/fhs-hachi5.dat #(0.3a)を行った場合。これはしなくてもよいが念のため元に戻した方が開通道はない
1139  ###
1140  else #if [ "${platform:0:1}" = "K" ];then
1141  ###
1142  #[1.1b] 小松君は、次を実行する (Komatsu)
1143  ## mmt-san2を mmt-san10, fhs-hachi5を fhs-hachi10で置き換えて、L:1:2:3:4:5:6:7:8:9 nf=$((7*10*9))=630個のデータで実験する。
1144  ###
1145  if [ ! -e $dn/mmt-san2.dat ]; then cp $dn/mmt-san10.dat $dn/mmt-san2.dat; fi
1146  if [ ! -e $dn/fhs-hachi5.dat ]; then cp $dn/fhs-hachi10.dat $dn/fhs-hachi5.dat; fi
1147  export L=1:2:3:4:5:6:7:8:9 nf=$((7*10*9)) fnerr='\' #
1148  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1149  export S=fhs:fms:mkk:mko:mmt:mmh:mym
1150  fi
1151  #####From here
1152  echo -ne "\n\nplatform=$platform with nf=$nf fnerr=$fnerr L=$L"
1153  export R=1 #R=1:0.8:0.6:0.4:0.2
1154  export k=32 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1155  export k=32 l=30 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1156  export k=40 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1157  export k=50 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1158  export k=60 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1159  export k=80 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1160  export k=70 l=20 mp_th=0 nDisp=5 #LPC次数 k フレーム数 l フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
```

```
1161  export k=10 l=0 N=24 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数
1162  export k=56 l=20 mp_th=0 nDisp=5 #LPC次数k フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp
1163  export k=15 l=0 N=24 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数
1164  export k=8 l=0 N=30 a=0.63 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 #ElapsedTime 34993.603s(9:43:13.602)
1165  export k=8 l=0 N=30 a=1.0 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数
1166  export k=8 l=0 N=24 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数
1167  export k=8 l=0 N=40 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 laptop
1168  export k=8 l=0 N=30 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 laptop
1169  export k=8 l=0 N=60 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 susanoo ul4
1170  export k=8 l=0 N=50 a=1.0 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 susanoo ul4
1171  export k=8 l=0 N=50 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 susanoo ul4au20
1172  export k=8 l=0 N=50 a=0.7 b=40 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 susanoo ul4 ***
1173  export k=8 l=0 N=50 a=0.7 b=20 s=1 #l=0 for conventional LPC #pLPC次数=CAN2の入力ベクトルの次数 susanoo ul4 ***
1174  export k=15 l=20 mp_th=0 nDisp=5 #LPC次数k フレーム長 l[ms], 平均パワー mp_th, フレーム番号 nDisp ***
1175  rsa=2:${a}:${s}:${b} #a:bagratio, s:seed, b:number of bags
1176  if [ $l -eq 0 ]; then #CAN2
1177  export dr=${dl}_k${k}N$a${a}b${b}N${N}a${a}b${b}_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC) #new
1178  export nfn=`ls ${dr}/*-M.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of files:$dr/*-M.dat is nfn=$nfn"
1179  else #LPC
1180  export dr=${dl}_k${k}R${R}_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC)
1181  export dr=${dl}_k${k}l${l}R${R}_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC) #new
1182  #export dr=${dl}_k${k}l${l}p${mp_th}_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC)
1183  fi
1184  #export dr=${dl}_k${l}R$R${l}R$l_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC) #old
1185  #export dr=${dl}_k${l}N${R}N$a${a}b$_${platform}; mkdir -p $dr #l>0 for LPC, l=0 for CAN2(pLPC) #new
1186  #new
1187  #####
1188  export nfn=`ls ${dr}/*-M.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of files:$dr/*-M.dat is nfn=$nfn"
1189  #########Exec
1190  if [ "$OnlyEnvSet" != 1 ];then ########## Do Execute
1191  make data-clean
1192  if [ "$nfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #アファイルがなければ作る
1193  cmd="python mkM.py -dn $dn -dr $R -ow 00 -k $k -l $l -mp_th ${mp_th} -N ${N} -rsa ${rsa} -DISP 0 -nDisp ${nDisp} -S $S -SD -L $L -fnerr $fnerr" #for lpc
1194  #for check
1195  #python lpcspectrumenvelope.py -yin ../../12voicedata_ueki_all_m/fhs-zero1-R1.dat -k 15 -l 20 -mp_th 0.0 -fout ../../12voicedata_ueki_all_k15120R1_SY/fhs-zero1-R1-M.dat -nDisp -1
1196  echo "#Exec $cmd";date>nohup.out;echo "$cmd">>nohup.out;nohup $cmd&
1197  else
1198  echo "#Number of files $nfn=$nf is sufficient. Omit making M."
1199  fi
1200  #########check files created
1201  export nfn=`ls ${dr}/*-M.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-M.dat files nfn=$nfn"
1202  #########check files created
1203  fi #for if [ "$OnlyEnvSet" != 1 ];then ######### Do Execute
1204  ############################################
1205  #echo c|python mkM_lpc.py -dr $dr -DISP 0 -ow 00 -k $k -l $l -mp_th 0.0 -nDisp 5 -dbgi 1
1206  #echo c|python mkM20201214-.py -dr $dr -R $R -DISP 0 -ow 00 -k $k -dbgi 1
1207  #ElapsedTime about 567.767s(0:09:27.766) for lpc
1208  ###################################################
1209  #copy&paste to here for step1 # nfn=$nfであることを確認後以下に進む
1210  #########
1211  export nfn=`ls ${dr}/*-M.dat>tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#Number of $dr/*-M.dat files nfn=?$nf"
1212  #wc ${dr}/*-M.dat
1213  #wc ../../12voicedata_ueki_all_k810R1_SY/fhs-go1-R1-M.dat $dr/fhs-go1-R1-M.dat
1214  #wc ../../12voicedata_ueki_all_k810R1_SY/fhs-go1-R1-M.dat #../../12voicedata_ueki_all_k15120Rl_Ku20-/mym-kyu9-R1-M.dat created
1215  #ElapsedTime 372.084s(0:06:12.084)  #../../12voicedata_ueki_all_k15120Rl_Ku20...
1216  #ElapsedTime 31969.678s(8:52:49.677) #../../12voicedata_ueki_all_k810R1N50a0.7b20_Ku20.susanoo
1217  #ElapsedTime 374.870s(0:06:14.869) #../../12voicedata_ueki_all_k15120R1_Ku20/ laptop
1218  #ElapsedTime 409.380s(0:06:49.380) #../../12voicedata_ueki_all_k15120R1_Ku20/ susanoo
1219  #ElapsedTime 623.149s(0:10:23.149) #../../12voicedata_ueki_all_k15120R1_Su14
1220  #ElapsedTime 31479.091s(8:44:39.090) #../../12voicedata_ueki_all_k810R1N24a0.7b20_SY/mym-kyu10-R1-M.dat created
1221  #ElapsedTime 33033.020s(9:10:33.019) #../../12voicedata_ueki_all_k810R1N30a1.0b20_SY t1=400  in mkM.
```

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```
Py
1222 #ElapsedTime 34423.572s(9:33:43.571) #p../../l2voicedata_ueki_all_k8l0RlN30a1.0b20_SY tl=10000 in mk
M.py
1223 ##################################################
1224 #[2] Mから極分布またはスペクトル包絡を求め、話者識別または単語識別
1225 #[2a] 極分布を求め (M2PC.py→PC2xPy)また
1226 #[2b] 極分布を求め (oob4speakerdigit+RX_20200910.py-->oob4
speakerdigit+RX_20210426.py)また
1227 #[2b] スペクトル包絡を求め (M2s.py)、話者識別または単語識別 (oob4speakerdigit+RX_20200910.py-->oob4s
peakerdigit+RX_20210426.py)
1228 ################################
1229 ##
1230 #[2b.1] スペクトル包絡を求め (M2s.py)、話者識別または単語識別
1231 #[2b.1] スペクトル包絡を求め (oob4speakerdigit+RX_20210426.py)
4speakerdigit+RX_20210426.py)
1232 ###########################################
1233 #copy&paste from here for step2b.1
1234 export FD=SC #With FD=SC..., S for poleweight1, s for orig; C for LPCspectrum;
1235 export FD=sC #With FD=SC..., S for poleweight1, s for orig; C for LPCspectrum;
1236 export ns=120 ns=120 スペクトルの次元
1237 export ls=10 # ls[0]=1 for log after sum    log|sum_m 1/(1-Pm exp(-jw n))|
1238 export D=zero:ichi:san:sigo:roku:nana:hachi:kyu S=fhs:fms:nkk:mkko:mmt:mnh:mym
1239 export fn=${dr}/mym-zero9-R${R}-FD${FD}ns${ns}ls${ls}.dat
1240 ###
1241 export nfn=`ls ${dr}/*-*-R${R}-FD${FD}ns${ns}ls${ls}.dat 2>/dev/null;cat tmp.txt|wc -l`;echo
"#Number of files $dr/*-*-R${R}-FD${FD}ns${ns}ls${ls}.dat is nfn=$nfn=?$nf"
1242 #############Exec
1243 if [ "$OnlyEnvSet" != 1 ];then ######### Do Execute
1244 if [ "$nfn" -eq "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
1245 echo "#Number of files $nfn=$nf is sufficient. Omit making spectrum files."
1246 else
1247 cmd0="python M2s.py -dr $dr -R $R -ow 1 -DISP 00 -dbgi 1 -ns -ls $ls -FD $FD -rap 0 -fnerr $fner
r"
1248 #check python M2s.py -dr ../../l2voicedata_ueki_all_k15120R1_Ku20 -R 1 -DISP 00 -dbgi 1 -ns 12
0 -ls 10 -FD $C -rap 0 -fnerr '' -S mnh -D si -L 5
1249 echo "Executing $cmd0"
1250 echo c |$cmd0
1251 fi
1252 fi #for if [ "$OnlyEnvSet" != 1 ];then ########## Do Execute
1253 export nfn=`ls ${dr}/*-*-R${R}-FD${FD}ns${ns}ls${ls}.dat 2>/dev/null;cat tmp.txt|wc -l`;echo
"#Number of files $dr/*-*-R${R}-FD${FD}ns${ns}ls${ls}.dat is nfn=$nfn=?$nf"
1254 export nfn=`ls ${dr}/*-*-R${R}-FD${FD}ns${ns}ls${ls}.dat 2>/dev/null;cat tmp.txt|wc -l`;echo -
n "#nfn=$nfn spectrum files"
1255 ##############
1256 #[2b.2] oob4speakerdigit+RX_20210426.pyで話者照合(sd=s)また単語照合(sd=d)を行う
1257 ###
1258 export sd=d #word identification
1259 export sd=s #speaker identification
1260 export sX=-1;a=1.6;b=100;N=40; #
1261 export sX=-1;a=1.6;b=50;N=40: #
1262 export mbas=2:${b};${a}:1
1263 export mel=0 #1 for use mel frequency
1264 export nlz=norm #normalize by norm, max, 1
1265 ###########Exec
1266 #for save train_xy
1267 #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N} -
sd $sd -sX ${sX} -FD ${FD} -ns -ls $ls -mel $mel -nlz $nlz -fnerr -AF q";$cmd
1268 #===$saved ../../l2voicedata_ueki_all_k8l0RlN50a0.7b20_Ku20/FDsCns120ls10train_xy.dat
1269 if [ "$OnlyEnvSet" != 1 ];then ######### Do Execute
1270 #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N} -s
-N 40 -sd $sd $sd -FD $FD -ns $ns -ls -mel $mel -nlz norm";#"-s 1" old version
1271 export AF=../../l2voicedata_ueki_all_k8l0RlN50a0.7b20_Ku20/pPIF2xz3G3Gx0.5m0
1272 export AF='.' #export AF=q
1273 cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N} -s
d $sd -sX ${sX} -FD ${FD} -ns -ls $ls -mel $mel -nlz -fnerr $fnerr -AF $AF"
1274 #cmd="python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas $mbas -N ${N} -
sd $sd -sX ${sX} -FD ${FD} -ns $ns -ls -mel $mel -nlz -fnerr $fnerr"
1275 #cmd="python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R $R -RX 0 -mbas $bas 2:50:1.6:1
-s -1 -N 40 -sd $sd $sd -FD $FD -ns $ns -ls -mel $mel -nlz norm";#"-s 1" old version
1276 #[2b.2]python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R $R -mbas -tx zero:ichi:ni:san:s
i:go:roku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ../../l2voicedata_ueki_all_k15120R1_Ku20 -R 1 -mbas 2:100:
1.6:1 -N 40 -sd s -sX -1 -FD sC -ns 120 -ls 10 -mel 0 -nlz norm -fnerr '',
1277 date > nohup.out;nohup $cmd& #select this line
1278 $cmd                     #     or this line
1279 #cat >cmd.sh <<EOF
1280 #!/bin/bash -x
1281 $cmd
1282 #EOF
1283 #make;
1284 #export LANG=C;export d=`date`\
1285 #notify-send -t 10000 -i dialog-information -u critical 'Finish'
1286 #EOF
1287 #rm -f nohup.out;nohup sh cmd.sh&
1287 fi #for if [ "$OnlyEnvSet" != 1 ];then ######### Do Execute
```

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1288 ##copy&paste to here for step2b.1-2
1289 #20210420
1290 lx0sds 5426.838s(1:30:26.837)../../l2voicedata_ueki_all_k15120R1_Ku20 susanoo***!!
1291 #TP0.916 TN0.987 FP0.013 FN0.084 ER0.024 RC0.916 PR0.919 F0.917 n4410 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5321.212s(1:28:41.211)../../l2voicedata_ueki_all_k15120R1_Ku20 laptop
1292 #TP0.883 TN0.987 FP0.014 FN0.084 ER0.024 RC0.916 PR0.919 F0.917 n4410 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5378.008s(1:29:38.008)../../l2voicedata_ueki_all_k15120R1_Ku20-/
1293 #TP0.883 TN0.971 FP0.029 FN0.117 ER0.029 RC0.883 PR0.913 F0.897 n4410 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5895.582s(1:38:15.581)../../l2voicedata_ueki_all_k8l0RlN50a0.7b20_Ku20 susanoo
1294 #TP0.686 TN0.970 FP0.030 FN0.314 ER0.071 RC0.686 PR0.791 F0.735 n4410 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5363.892s(1:29:23.892)../../l2voicedata_ueki_all_k8l0RlN50a0.7b20_Ku14/
1295 #TP0.871 TN0.984 FP0.016 FN0.129 ER0.032 RC0.871 PR0.903 F0.887 n4410 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 4984.862s(1:23:04.861)../../l2voicedata_ueki_all_k15120R1_Ku14
1296 ##
1297 #TP0.914 TN0.985 FP0.015 FN0.086 ER0.025 RC0.914 PR0.910 F0.912 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
lx0sds 6581.584s(1:49:41.584)../../l2voicedata_ueki_all_k15120R1_Su20
1298 #TP0.915 TN0.986 FP0.014 FN0.085 ER0.024 RC0.915 PR0.917 F0.916 n4886 k90 FDsCns120ls10N40b50a1.6R1
lx0sds 5574.968s(1:32:54.967)../../l2voicedata_ueki_all_k15120R1_Su14***!!!F0.916
1299 #20210314-20210401 by kuro saved in e.g. ../../l2voicedata_ueki_all_k${k}120R1_SY/ and
1300 #TP0.897 TN0.984 FP0.016 FN0.103 ER0.029 RC0.897 PR0.902 F0.899 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 5414.700ls(1:30:14.700)k8120R1_SY
1301 #TP0.901 TN0.983 FP0.017 FN0.099 ER0.028 RC0.901 PR0.900 F0.901 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 5021.808s(1:23:41.808)k9120R1_SY
1302 #TP0.903 TN0.984 FP0.016 FN0.097 ER0.027 RC0.903 PR0.903 F0.903 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3522.957s(0:58:42.957)k10120R1_SY
1303 #TP0.904 TN0.985 FP0.015 FN0.096 ER0.026 RC0.904 PR0.904 F0.904 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3825.599s(1:03:45.598)k15120R1_SY ******
1304 #TP0.903 TN0.985 FP0.015 FN0.097 ER0.027 RC0.903 PR0.903 F0.903 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3616.897s(1:00:16.896)k16120R1_SY
1305 #TP0.903 TN0.985 FP0.015 FN0.097 ER0.027 RC0.903 PR0.903 F0.903 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3624.875s(1:00:24.875)k17120R1_SY
1306 #TP0.903 TN0.985 FP0.015 FN0.097 ER0.027 RC0.903 PR0.903 F0.903 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3609.647s(1:00:09.646)k18120R1_SY
1307 #TP0.904 TN0.985 FP0.015 FN0.096 ER0.027 RC0.904 PR0.904 F0.907 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 3522.756s(0:58:42.756)k20120R1_SY
1308 ##
1309 #TP0.907 TN0.985 FP0.015 FN0.093 ER0.026 RC0.907 PR0.907 F0.909 n4886 k100 FDsCns100ls10N40b50a1.6R1
lx0sds 4555.852s(1:15:55.852)k15120R1_SY***
1310 #TP0.914 TN0.986 FP0.014 FN0.086 ER0.025 RC0.914 PR0.914 F0.914 n4886 k110 FDsCns110ls10N40b50a1.6R1
lx0sds 4864.129s(1:21:04.128)k15120R1_SY*****
1311 #TP0.915 TN0.986 FP0.014 FN0.085 ER0.024 RC0.915 PR0.917 F0.916 n4886 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5574.968s(1:32:54.967)k15120R1_SY****!!!F0.916
1312 #TP0.911 TN0.986 FP0.014 FN0.089 ER0.025 RC0.911 PR0.913 F0.913 n4886 k130 FDsCns130ls10N40b50a1.6R1
lx0sds 6278.891s(1:44:38.890)k15120R1_SY****
1313 ##
1314 #TP0.910 TN0.985 FP0.015 FN0.090 ER0.025 RC0.910 PR0.911 F0.911 n4886 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 7148.077s(1:59:08.077)k15120R1_SY u140@susanoo
1315 #20210305 by kuro
1316 n4886=7*698
1317 ../../l2voicedata_ueki_all_k56120R1_SY
1318 #TP0.904 TN0.985 FP0.016 FN0.096 ER0.027 RC0.904 PR0.904 F0.905 n4886 k90 FDsCns90ls10N40b50a1.6R1llx
0sds 4024.419s(1:07:04.419)k56120R1_SY
1319 #TP0.907 TN0.986 FP0.014 FN0.093 ER0.025 RC0.907 PR0.905 F0.911 n4886 k100 FDsCns100ls10N40b50a1.6R1
lx0sds 4546.716s(1:15:46.716)k56120R1_SY -
1320 #TP0.915 TN0.986 FP0.014 FN0.085 ER0.024 RC0.915 PR0.911 F0.916 n4886 k110 FDsCns110ls10N40b50a1.6R1
lx0sds 5264.897s(1:27:44.897)k56120R1_SY
1321 #TP0.917 TN0.986 FP0.014 FN0.085 ER0.024 RC0.917 PR0.918 F0.917 n4886 k120 FDsCns120ls10N40b50a1.6R1
lx0sds 5377.330s(1:29:37.330)k56120R1_SY best F
1322 #TP0.911 TN0.986 FP0.014 FN0.089 ER0.025 RC0.911 PR0.914 F0.911 n4886 k130 FDsCns130ls10N40b50a1.6R1
lx0sds 6040.623s(1:40:40.623)k56120R1_SY
1323 #TP0.908 TN0.986 FP0.014 FN0.092 ER0.025 RC0.908 PR0.908 F0.912 n4886 k140 FDsCns140ls10N40b50a1.6R1
lx0sds 6775.040s(1:52:55.039)k56120R1_SY -s
1324 #TP0.915 TN0.986 FP0.014 FN0.085 ER0.024 RC0.915 PR0.917 F0.916 n4886 k150 FDsCns150ls10N40b50a1.6R1
lx0sds 8016.669s(2:13:36.669)k56120R1_SY -
1325 #TP0.910 TN0.985 FP0.015 FN0.090 ER0.026 RC0.910 PR0.912 F0.910 n4886 k160 FDsCns160ls10N40b50a1.6R1
lx0sds 8346.611s(2:19:06.611)k56120R1_SY
1326 #TP0.904 TN0.986 FP0.014 FN0.096 ER0.026 RC0.904 PR0.914 F0.909 n4886 k200 FDsCns200ls10N40b50a1.6R1
lx0sds 11913.626s(3:18:33.625)k56120R1_SY
1327 ###
1328 ##################################################
1329 ##
1330 ##################################################
1331 #[2a1 部分分数展開し (M2PC.py)、極分布を求め (C2xPy)、学習識別 (oob4speakerdigit+RX_20210426.py、oob4spe
akerdigit+RX_20200910.py)
1332 ##################################################
1333 ##
1334 #[2a.1] M2PC.pyでMを部分分数 C_i/(1-P_i z^(-1))に展開)で~-PC.datという P-Cへ係数ファイルを作り、各行には
Px Py Cx Cy
1335 #を保存。
1336 #copy&paste from here for step2a.1
1337 export fn=$(dr}/*-R${R}*-PC.dat:nfn=`ls $(fn}/tmp.txt 2>/dev/null;cat tmp.txt|wc -l`;echo "#nfn=$nfn
```

```
-PC.dat files exist"
1338    #export fn=$(dr)/*-R$(R)*-PC.dat; nfn=`ls $fn|wc -l`;echo "#nfn=$nfn files exist"
1339    ###
1340    ######Exec
1341    if [ "$OnlyEnvSet" != 1 ];then #########  Do Execute
1342    if [ ! "$nfn" = "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
1343    cmdPC="python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 -L $L -fnerr $fnerr"
1344    echo "Executing $cmdPC"
1345    date > nohup.out;echo $cmdPC>>nohup.out:nohup $cmdPC
1346    #date > nohup.out:nohup python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 &
1347    ##errorcheck
1348    ##export S=fms D=roku L=2; cmdPC="python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 -S $S -D $D -L $L"
1349    #次元が k=100 のとき、極数が 9 となることがあったので M2PC.mac を修正、PC2xPy.py も修正
1350    #nanのCi (n=402,i=8) があった
1351    ##../../l2voicedata_ueki_all_k1010/mko-roku3-R1-PC.dat:0.6243918693768808  -0.823031659143526 0.-nan
0.-nan
1352    #echo 'fnB:"../../l2voicedata_ueki_all_k1010/mko-roku3-R1"; batchload("M2PC.mac");'|maxima
1353    else    #echo "#number of *-PC files $nfn=$nf is sufficient. Omit making PC files."
1354    fi
1355    #########check number of files created
1356    fi #for if [ "$OnlyEnvSet" = 1 ];then #########  Do Execute
1357    ##########check number of files created
1358    export fn=$(dr)/*-R$(R)*-PC.dat:nfn=`ls $(R)*-PC.dat:nfn=`ls $(fn)>tmp.txt 2>/dev/null:cat tmp.txt|wc -l`:echo "#nfn=$nfn
*-PC.dat files exist"
1359    #########check number of files created
1360    #copy&paste to here for step2a.1
1361    ###
1362    export fn=$(dr)/*-R$(R)*-PC.dat:nfn=`ls $(fn)>tmp.txt 2>/dev/null:cat tmp.txt|wc -l`:echo "#nfn=$nfn
=?$nf $dr/*-PC.dat files exist"
1363    ###
1364    #ElapsedTime 15137.643s(4:12:17.643)  m_cpu8      ../../l2voicedata_ueki_all_k1010/mko-roku3-R1 susanoo
1365    #ElapsedTime 33228.978s(9:13:48.977)  m_cpu12     ../../l2voicedata_ueki_all_k810R1N50a0.7b20_Ku20/ laptop
1366    #ElapsedTime 17817.844s(4:56:57.844)  ../../l2voicedata_ueki_all_k810R1N50a0.7b20_Ku20/ su
1367    #ElapsedTime 4457.709s(1:14:17.709)   ../../l2voicedata_ueki_all_k15120R1_Ku20/ susanoo
1368    #ElapsedTime 19522.251s(5:25:22.251)  ../../l2voicedata_ueki_all_k810R1N24a0.7b20_SY
1369    #ElapsedTime 125423.999s(1:day,10:50:23.999) k=15 l=0
1370    #ElapsedTime 19111.233s(5:18:31.233)  for k=8 N=24
1371    #ElapsedTime 23188.997s(6:26:28.977)  for k=8 N=30
1372    #ElapsedTime 23277.325s(6:27:57.324)  for ../../l2voicedata_ueki_all_k810R1N30a1.0b20_SY
1373    #ElapsedTime 22902.855s(6:21:42.855)  for ../../l2voicedata_ueki_all_k810R1N30a1.0D20_SY t1=1000
1374    #####
1375    ##############
1376    #[2a.2] 応起パラメタを持つxPy確分布ファイルの存在を調べ、なければ作る
1377    ###
1378    #copy&paste from here for step2a.2
1379    export RX=0 #???
1380    export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
1381    export FD=P1 #pP1 #pP1 pPc pPcb rP1 rPc rPcb
1382    export FD=pP1 #pP1 #pP1 pPc pPcb rP1 rPc rPcb
1383    export FD=pPc #pP1 #pP1 pPc pPcb rP1 rPc rPcb
1384    export URA=0 #1 for use real axis, 0 for negrect real axis PC2xPy.py.
1385    export mel=0 lx=0 #0
1386    export nx=16 nr=4 na=26 #nx=((nr*na)*2)**(0.5):print 'nx=',int(nx+0.5)nx= 10
1387    export nx=14 nr=4 na=23 #nx=((nr*na)*2)**(0.5):print 'nx=',int(nx+0.5)nx= 10
1388    if [ "$(FD:0:1)" == "p" ]; then #xPyアファイルの存在確認
1389    #nfn=`ls $(dr)FF$(nr)x$(na)G$(sG)m$(mel).dat'
1390    #nfn=`ls $(dr)*-R$(R)*-$(FD)F$(nr)x$(na)G$(sG)m$(mel)x$(sG)m$(mel).dat>tmp.txt 2>/dev/null:cat tmp.txt|wc
-l`
1391    export fn=$(dr)/*-R$(R)*-$(FD)F$(nr)x$(nx)G$(sG)m$(mel).dat: nfn=`ls $fn|wc -l`:echo "#nfn=$nf
n files exist"
1392    else
1393    #fn=$(dr)/mym-zero9-R$(R)*-$(FD)F$(nx)G$(nG)$(sG)$(sG).dat
1394    #nfn=`ls $(dr)/*-R$(R)*-$(FD)F$(nx)G$(nG)x$(sG).dat>tmp.txt 2>/dev/null:cat tmp.txt|wc -l`
1395    export fn=$(dr)/*-R$(R)*-$(FD)F$(nx)G$(nG)$(sG)$(sG).dat:export nfn=`ls $fn|wc -l`:echo "#nfn=$nfn files
exist"
1396    fi
1397    echo "#Number of *-$FD*.dat files=$nfn"
1398    ######Exec
1399    if [ "$OnlyEnvSet" != 1 ];then #########  Do Execute
1400    if [ ! "$nfn" -lt "$nf" ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る
1401    cmd0="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr $nr -na $na -nG $nG -sG $sG -mel $mel
-DISP 0 -URA $URA -k $k"
1402    #date > nohup.out:nohup $(cmd0)
1403    $(cmd0) #date > nohup.out:nohup $(cmd0)& #計算する
1404    fi #for if [ "$OnlyEnvSet" != 1 ];then #########  Do Execute
1405    fi #for if [ "$OnlyEnvSet" = 1 ];then
1406    #copy&paste to here for step2a.2
1407    ######
1408    #############
1409    #[2a.3] 学習と話者識別実行  oob4speakerdigit+RX_20210426.py/(oob4speakerdigit+RX_20200910.py)
1410    ###
1411    #copy&paste from here for step2a.3
```

```
1412    export sX=-1:a=1.6:b=100:N=40: #
1413    export sX=-1:a=0.7:b=20:N=40: #
1414    export sX=-1:a=1.6:b=100:N=40: #
1415    export sX=-1:a=1.6:b=50:N=50: #best for ../../l2voicedata_ueki_all_k2015R1_Ku20omp3
1416    export sX=-1:a=1.6:b=50:N=70: #best for ../../l2voicedata_ueki_all_k810R1N50a0.7b20_Ku20omp2
1417    export nlz=norm
1418    export nlz=1
1419    export mbas=2:$(b):$(a):1
1420    export ow=0 #Do not do make clean:Use previous learning
1421    export ow=1 #make clean
1422    export sd=d #digit (word) verification    #new version
1423    export sds #speaker verification          #new version
1424    export FD=pP1 #pP1 pPc pPcb rP1 rPc rPcb  #Do Execute
1425    ######Exec
1426    if [ "$OnlyEnvSet" != 1 ];then #########  Do Execute
1427    export AF=../../l2voicedata_ueki_all_k15120R1_Ku20/FDsCns1201s10
1428    export AF='.'
1429    cmd="python oob4speakerdigit+RX_20210617.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -s
d $sd -N $(N) -sX $(sX) -FD $(FD) -nx $nx -nr $na -na $na -nG $nG -sG -mel $mel -nlz $nlz -lx $lx -ow $o
w -AF $AF -method $mathod'
1430    #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -
sd $sd -N $(N) -sX $(sX) -FD $(FD) -nx $nx -nr $na -na $na -nG $nG -sG -mel $mel -nlz $nlz -lx $lx -ow $
ow -AF $AF"
1431    #cmd="python oob4speakerdigit+RX_20210426.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -
sd $sd -N $(N) -sX $(sX) -FD $(FD) -nx $nx -nr $na -na $na -nG $nG -sG -mel $mel -nlz $nlz -lx $lx -ow $
ow"
1432    #cmd="python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -
sd $sd -N $(N) -sX $(sX) -FD $(FD) -nx $nx -nr $na -na $na -nG $nG -sG -mel $mel -nlz $nlz -lx $lx -ow $
ow"
1433    echo "#Execute $(cmd)"
1434    $(cmd)&
1435    #[2b.2] python oob4speakerdigit+RX_20210426.py -sp fhs:fms:mkk:mko:mnt:mnh:mym -tx zero:ichi:ni:san:
si:go:roku:nana:hachi:kyu -L 12:3:4:5:6:7:8:9 -dr ../../l2voicedata_ueki_all_k15120R1_Ku20 -R 1 -mbas 2:100
:1.6:1 -N 40 -sd s -sX -1 -FD sC -ns 120 -1s 10 -mel 0 -nlz norm -fnerr ''
1436    #[2a.3] python oob4speakerdigit+RX_20210426.py -sp fhs:fms:mkk:mko:mnt:mnh:mym -tx zero:ichi:ni:san:
si:go:roku:nana:hachi:kyu -L 12:3:4:5:6:7:8:9 -dr ../../l2voicedata_ueki_all_k810R1N50a0.7b20_Ku20 -R 1 -RX
0 -mbas 2:200:1.6:1 -sd s -N 50 -sX 1 -FD pP1 -nx 14 -nr 2 -na 23 -nG 3 -sG 0.5 -mel 0 -nlz 1 -lx 0 -ow 1
1437    #date > nohup.out:nohup $(cmd)&
1438    fi #for if [ "$OnlyEnvSet" != 1 ];then #########  Do Execute
1439    #copy&paste to here for step2a.3
1440    ######
1441    #############################################################
1442    ###########################################################
1443    #Some Results via ubuntu14.04
1444    ##############################################################
1445    ##LPC
1446    #TP0.681 TN0.976 FP0.024 FN0.319 ER0.046 RC0.784 PR0.881 F0.830 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
R1lx0sds 354.391s(0:05:54.391) ../../l2voicedata_ueki_all_k2015R1_Ku20omp
1447    #TP0.681 TN0.976 FP0.024 FN0.319 ER0.046 RC0.781 PR0.828 F0.747 n4410 k46 pPcF2x23G3x0.5m0N40b50a1.6
R1lx0sds 361.414s(0:06:01.414) ../../l2voicedata_ueki_all_k15120R1_Ku20omp
1448    #TP0.681 TN0.976 FP0.024 FN0.319 ER0.046 RC0.828 F0.747 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6R1
1449    #TP0.886 TN0.984 FP0.016 FN0.114 ER0.030 RC0.886 PR0.900 F0.893 n4410 k120 FDsCns1201s10N40b50a1.6R1
1x0sds 5678.452s(1:34:38.451) k15120R1_Ku20/result-R1FDsCns1201s10N40b50a1.6R1.dat susanoo
1450    #TP0.886 TN0.984 FP0.016 FN0.114 ER0.030 RC0.886 PR0.900 F0.893 n4410 k120 FDsCns1201s10N40b50a1.6R1.dat laptop
1451    1x0sds 5382.564s(1:29:42.563) k15120R1_Ku20/result-R1FDsCns1201s10N40b50a1.6R1.dat laptop
1452    #TP0.794 TN0.973 FP0.027 FN0.206 ER0.052 RC0.794 PR0.832 F0.812 n4410 k166 pP1F2x23G3x0.5m0N80b50a1.
6R1lx0sds 12823.763s(3:33:43.762) k810R1N50a0.7b20_Ku20-AF_k15120R1_Ku20/FDsCns1201s10
1453    F2x23G3x0.5m0N40b50a1.6R1.dat)
1454    #xxx#TP0.784 TN0.982 FP0.018 FN0.216 ER0.046 pP1F2x23G3x0.5m0N40b50a
1.6R1lx0sds 2012.223s(0:33:32.222) k810R1N50a0.7b20_Ku20-AFk15120R1_Ku20/FDsCns1201s10
1455    #xxx#TP0.761 TN0.979 FP0.021 k810R1N50a0.7b20_Ku20-AFk15120R1_Ku20/FDsCns1201s10
1.6R1lx0sds 1529.561s(0:25:29.560) k810R1N50a0.7b20_Ku20-AFk15120R1_Ku20/FDsCns1201s10
1456    #TP0.781 TN0.987 FP0.013 FN0.219 ER0.045 RC0.781 PR0.911 F0.841 n4410 k166 FDsCns1201s10N40b50a1.6R1
1x0sds 9164.853s(2:32:44.852)  k15120R1_Ku20-AFk810R1N50a0.7b20_Ku20/pP1F2x23G3x0.5m0
1457    #TP0.784 TN0.982 FP0.018 FN0.216 ER0.045 RC0.784 PR0.881 F0.830 n4410 k166 pP1F2x23G3x0.5m0N60b50a1.6
R1lx0sds 2012.223s(0:33:32.222) k810R1N50a0.7b20_Ku20-AFk15120R1_Ku20/FDsCns1201s10
1458    #TP0.761 TN0.979 FP0.021 FN0.219 ER0.049 RC0.761 PR0.862 F0.808 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
R1lx0sds 1529.561s(0:25:29.560) k810R1N50a0.7b20_Ku20-AFk15120R1_Ku20/FDsCns1201s10
1459    #TP0.781 TN0.984 FP0.016 FN0.219 ER0.045 RC0.781 PR0.888 F0.831 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6R1
6R1lx0sds 3519.217s(0:58:39.217) k810R1N50a0.7b20_Ku20 susanoo nlz=norm
1460    #TP0.790 TN0.983 FP0.017 FN0.210 ER0.045 RC0.790 PR0.883 F0.834 n4410 k46 pP1F2x23G3x0.5m0N50b100a1.
6R1lx0sds 3711.284s(1:01:51.283) k810R1N50a0.7b20_Ku20 susanoo ****!!
1461    #TP0.808 TN0.986 FP0.014 FN0.192 ER0.039 RC0.808 PR0.906 F0.854 n4410 k46 pP1F2x23G3x0.5m0N50b200a1.
6R1lx0sds 6987.019s(1:56:27.018) k810R1N50a0.7b20_Ku20 susanoo *slow
1462    #TP0.786 TN0.987 FP0.013 FN0.214 ER0.042 RC0.786 PR0.907 F0.842 n4410 k46 pP1F2x23G3x0.5m0N50b200a1.
0R1lx0sds 5163.200s(1:26:03.200) k810R1N50a0.7b20_Ku20 susanoo ******
1463    #TP0.784 TN0.983 FP0.017 FN0.216 ER0.045 RC0.784 PR0.885 F0.834 n4410 k46 pP1F2x23G3x0.5m0N40b100a1.
6R1lx0sds 3043.575s(0:50:43.574) k810R1N50a0.7b20_Ku20 susanoo ****
1464    #TP0.760 TN0.986 FP0.014 FN0.240 ER0.046 RC0.760 PR0.902 F0.825 n4410 k46 pP1F2x23G3x0.5m0N50b200a0.
7R1lx0sds 4003.936s(1:06:43.936) k810R1N50a0.7b20_Ku20 susanoo
```

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1465  #TP0.783 TN0.976 FN0.976 FP0.024 FN0.052 RC0.783 FN0.844 F0.812 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1526.307s(0:25:26.306) k810R1N50a0.7b20_Ku20 susanoo
1466  #TP0.668 TN0.971 FP0.029 FN0.332 RC0.073 RC0.668 F0.791 n4410 k46 pPcF2x23G3x0.5m0N40b50a1.6
Rllx0sds 1513.883s(0:25:13.883) k810R1N50a0.7b20_Ku20/ nlz=norm
1467  #TP0.735 TN0.960 FP0.040 FN0.265 RC0.072 RC0.735 F0.754 n4410 k46 pP1F2x23G3x0.5m0N40b20a1.6
Rllx0sds 618.999s(0:10:18.998) k810R1N50a0.7b20_Ku20 susanoo
1468  #TP0.776 TN0.979 FP0.021 FN0.224 ER0.050 RC0.776 F0.861 n4410 k46 pP1F2x23G3x0.5m0N50b100a2.
3Rllx0sds 4896.020s(1:21:36.019) k810R1N50a0.7b20_Ku20 susanoo
1469  #TP0.775 TN0.986 FP0.014 FN0.225 RC0.775 RC0.900 F0.833 n4410 k46 pP1F2x23G3x0.5m0N50b100a1.
0Rllx0sds 2598.505s(0:43:18.505) k810R1N50a0.7b20_Ku20 susanoo ***
1470  #TP0.773 TN0.984 FP0.016 FN0.227 ER0.046 RC0.773 F0.889 n4410 k46 pP1F2x23G3x0.5m0N50b100a1.
0Rllx0sds 2935.397s(0:48:55.397) k810R1N50a0.7b20_Ku20 susanoo
1471  #TP0.629 TN0.978 FP0.022 FN0.225 ER0.051 RC0.775 F0.855 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 2118.327s(0:35:18.327)
1472  #TP0.629 TN0.971 FP0.029 FN0.371 ER0.078 RC0.629 F0.786 n4410 k46 pPcF2x23G3x0.5m0N40b50a1.6
Rllx0sds 1516.188s(0:25:16.188) k810R1N50a0.7b20_Ku20/ susanoo
1473  #TP0.616 TN0.976 FP0.024 FN0.384 ER0.076 RC0.616 F0.808 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1451.438s(0:24:11.437) k15120R1_Ku14 laptop
1474  #TP0.624 TN0.973 FP0.027 FN0.376 ER0.077 RC0.624 F0.796 n4410 k46 pPcF2x23G3x0.5m0N40b50a1.6
Rllx0sds 1509.011s(0:25:09.011) k15120R1_Ku14 susanoo
1475  #TP0.449 TN0.945 FP0.055 FN0.551 ER0.126 RC0.449 F0.505 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1483.201s(0:24:43.201) k15120R1_Ku20 susanoo
1476  #TP0.457 TN0.941 FP0.059 FN0.543 ER0.128 RC0.457 F0.562 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1443.003s(0:24:03.002) k15120R1_Ku14 laptop
1477  #TP0.781 TN0.981 FP0.019 FN0.219 ER0.048 RC0.781 F0.871 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1465.855s(0:24:25.855) k810R1N50a0.7b20_Su14 laptop
1478  #TP0.791 TN0.976 FN0.976 FP0.024 FN0.209 ER0.050 RC0.791 F0.847 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1784.790s(0:29:44.789) k810R1N40a0.7b20_Su14 laptop
1479  #TP0.777 TN0.979 FP0.021 FN0.223 ER0.050 RC0.777 +F0.858 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
6Rllx0sds 1785.805s(0:29:45.804) k810R1N30a0.7b20_Su14 laptop
1480  #TP0.789 TN0.981 FP0.019 FN0.211 ER0.046 RC0.789 F0.876 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
1481           20210401
1482  #TP0.784 TN0.982 FP0.018 FN0.216 ER0.046 RC0.784 F0.828 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1625.881s(0:27:05.880) k810R1N60a0.7b20_Su14 laptop
1483  #TP0.805 TN0.980 FP0.020 FN0.195 ER0.045 RC0.805 F0.869 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 2245.238s(0:37:25.237) k810R1N50a0.7b20_Su14 susanoo***F0.836
1484  #TP0.782 TN0.978 FP0.022 FN0.218 ER0.050 RC0.782 F0.853 F0.816 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1817.405s(0:30:17.404) k810R1N50a0.7b20_Su14 susanoo
1485  #TP0.779 TN0.979 FP0.021 FN0.221 ER0.049 RC0.779 F0.862 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1784.790s(0:29:44.789) k810R1N50a0.7b20_Su14 laptop
1486  #TP0.777 TN0.979 FP0.021 FN0.223 ER0.050 RC0.777 +F0.815 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
6Rllx0sds 1785.805s(0:29:45.804) k810R1N30a0.7b20_Su14 laptop
1487           20210401
1488  cat ../../l2voicedata_ueki_all_k810R1N24a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat f1=1000
1489  #TP0.787 TN0.975 FP0.025 FN0.213 ER0.052 RC0.787 F0.842 F0.813 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
1490
1491  #copy&paste from here for step2a.3
1492  python oob4speakerdigit+RX_20210426.py -sp fhs:fmks:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ../../l2voicedata_ueki_all_k15120R1_Ku20 -R 1 -mbas 2:100:1.6:1 -
N 40 -sd s -sX -1 -FD sC -ns 120 -ls 10 -mel 0 -nlz norm -fnerr '' -fn4AF ../../l2voicedata_ueki_all_k810R1N
50a0.7b20_Ku20/pP1F2x23G3x0.5m0train_xy.dat
1493
1494           20210401
1495  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat #new
1496  "cat ../../l2voicedata_ueki_all_k810R1N30a0.0b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1497  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat #new
1498           20210401
1499  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat #origin
al
1500  cat ../../l2voicedata_ueki_all_k810R1N24a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1501  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1502  #Do "cat ../../l2voicedata_ueki_all_k810R1N30a1.0b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat" to see the
result
1503  cat ../../l2voicedata_ueki_all_k810R1N30a1.0b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1504  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat #new
1505  cat ../../l2voicedata_ueki_all_k810R1N30a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1506  cat ../../l2voicedata_ueki_all_k810R1N24a0.7b20_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat #origin
al
1507  #TP0.758 TN0.978 FP0.022 FN0.242 ER0.053 RC0.758 F0.803 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1579.273s(0:26:19.272) k8N30
1508
1509
1510
1511  #Do "cat ../../l2voicedata_ueki_all_k15120R1_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat" to see the
result
1512  #TP0.758 TN0.978 FP0.022 FN0.242 ER0.053 RC0.758 F0.803 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1584.221s(0:26:24.218) k8N24
1513  #TP0.768 TN0.982 FP0.018 FN0.232 ER0.048 RC0.768 F0.827 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
6Rllx0sds 1595.119s(0:26:35.119) k8N24
1514  cat ../../l2voicedata_ueki_all_k15120R1_SY/result-R1pP1F2x23G3x0.5m0N40b50a1.6R1.dat
1515  #TP0.646 TN0.970 FN0.030 FP0.030 RC0.646 F0.709 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 3210.860s(0:53:30.860)
```

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1516  Rllx0sds 1686.607s(0:28:06.607)
1516  #TP0.638 TN0.978 FP0.022 FN0.362 ER0.071 RC0.638 PR0.829 F0.721 n4886 k104 pP1F4x26G3x0.5m0N40b50a1.
6Rllx0sds 5186.063s(1:26:26.063)
1517  #TP0.619 TN0.969 FP0.031 FN0.381 ER0.081 RC0.619 PR0.769 F0.686 n4886 k46 pP1F2x23G3x0.5m0N40b50a1.6
Rllx0sds 1574.752s(0:26:14.752)k15l0R1_SY
1518  ##platform K (Komatsu) 混合比 R=1 と 0.8
1519  export R=1 #0.8
1520  ##platform K (Komatsu) 混合比 R=1 #0.8
1521  export R=1 #0.8
1522  python oob4speakerdigit+RX_20200910.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9 -dr ../../l2voicedata_ueki_all_k810R1_K -R $R -RX 0 -mbas 2:50:1.6:1
-sd s -N 40 -sX -1 -FD pP1 -nx 14 -nr 2 -na 23 -nG 3 -sG 0.5 -mel 0 -nlz 1 -lx 0 --ow 1
1523  #TP0.775 TN0.978 FP0.022 FN0.225 ER0.051 RC0.775 PR0.855 F0.813 n4410 k46 pP1F2x23G3x0.5m0N40b50a1.6
1524  #TP0.462 TN0.965 FP0.035 FN0.538 ER0.107 RC0.462 PR0.688 F0.553 n4410 k46 pP1F2x23G3x0.5m0N40b100a1.
6R0.81x0sds 4437.380s(1:13:57.380)###platform K (Komatsu) 混合比 R=0.8
1525  0.456 0.983 0.017 0.544 0.092 = 41 531 9 49 58 # 630 fhs 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n,
m,R,RX,mbas,N
1526  0.411 0.978 0.022 0.589 0.103 = 37 528 12 53 65 # 630 fms 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
1527  0.589 0.965 0.035 0.411 0.089 = 53 521 19 37 56 # 630 mkk 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
,m,R,RX,mbas,N
1528  0.500 0.954 0.046 0.500 0.111 = 45 515 25 45 70 # 630 mko 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
,m,R,RX,mbas,N
1529  0.511 0.970 0.030 0.489 0.095 = 46 524 16 44 60 # 630 mmt 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
,m,R,RX,mbas,N
1530  0.389 0.959 0.041 0.611 0.122 = 35 518 22 55 77 # 630 mnh 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
,m,R,RX,mbas,N
1531  0.378 0.946 0.054 0.622 0.135 = 34 511 29 56 85 # 630 mym 0.8 0 2:100:1.6:1 40 #TP,TN,FP,FN,ER=..#n
,m,R,RX,mbas,N
1532  #TP0.462 TN0.965 FP0.035 FN0.538 ER0.107 RC0.462 PR0.688 F0.553 n4410 k46 pP1F2x23G3x0.5m0N40b100a1.
6R0.81x0sds 4437.380s(1:13:57.380)
1533
1534  #old?## platform SY
1535  #old?#speaker identification (sd=s) via [2a] with CAN2 pole distribution and spectral envelope
1536  #old?#pole distribution
1537  #old?#TP0.834 TN0.990 FP0.010 FN0.166 RC0.026 RC0.834 PR0.904 F0.867 n6980 k104 pP1F4x26G3x0.5m0N40b
50a1.6R1lx0 8583.744s(2:23:03.745)cat ../../l2voicedata_ueki_all_k8N24/ sd=s
1538  #old?#result with k10b100 worse than k8b50 above
1539  #old?#TP0.802 TN0.987 FP0.013 FN0.198 ER0.040 RC0.802 PR0.911 F0.853 n6980 k104 pP1F4x26G3x0.5m0N40b
100a1.6R1lx0 11685.256s(3:14:45.255)cat ../../l2voicedata_ueki_all_k10N24/
1540  #old?#spectral envelope via pLPC(CAN2)
1541  #old?#TP0.691 TN0.969 FP0.031 FN0.309 ER0.071 RC0.691 PR0.786 F0.735 n6980 k90 FDSCns901sl0N40b50a1.
6R1lx0 4861.562s(1:21:01.561) cat ../../l2voicedata_ueki_all_k1N24/ sd=s
1542  #old?#TP0.784 TN0.979 FP0.021 FN0.216 ER0.049 RC0.784 PR0.863 F0.821 n6980 k90 FDSCns901sl0N40b50a1.
6R1lx0 4336.769s(1:20:36.769)cat ../../l2voicedata_ueki_all_k10N24/ sd=s
1543  #old?#spectral envelope via LPC
1544  #old?#TP0.736 TN0.984 FP0.016 FN0.264 ER0.052 RC0.736 PR0.883 F0.803 n6980 k90 FDSCns901sl0N40b50a1.
6R1lx0 4180.309s(1:09:40.309)cat ../../l2voicedata_ueki_all_k70120 sd=s
1545  #old?#TP0.490 TN0.948 FP0.052 FN0.510 ER0.117 RC0.490 PR0.612 F0.544 n6980 k90 FDSCns901sl0N40b50a1.
6R1lx0 3862.580s(1:04:22.580)cat ../../l2voicedata_ueki_all_k70120/ sd=s
1546  #old?
1547  #old?#sd=d
1548  #old?#TP0.841 TN0.992 FP0.008 FN0.159 ER0.023 RC0.841 PR0.922 F0.879 k104 pP1F4x26G3x0.5m0N40b100a1.
6R1lx0 14270.964s(3:57:50.963)cat ../../l2voicedata_ueki_all_k810 sd=d
1549  #old?#TP0.822 TN0.986 FP0.014 FN0.178 ER0.030 RC0.822 PR0.871 F0.846 n6980 k90 FDSCns901sl0N40b50a1.
6R1lx0 4936.769s(1:20:36.769)cat ../../l2voicedata_ueki_all_k810sd=d
1550  #old?#TP0.709 TN0.974 FP0.026 FN0.291 ER0.053 RC0.709 PR0.751 F0.730 n6980 k90 FDSCns901sl0N40b50a1.6R1lx0 s
6R1lx0dd 5660.896s(1:34:20.895) cat ../../l2voicedata_ueki_all_k810sd=d
1551  #TP0.759 TN0.984 FP0.016 FN0.241 ER0.038 RC0.759 PR0.844 F0.799 k90 FDSCns901sl0N40b50a1.6R1lx0 6015
.656s(1:40:15.655).cat ../../l2voicedata_ueki_all_k810R$(R)N$Na$ab$b_K
1552  #export dr=~/sotu/2020/l2voicedata_ueki_all_k810R$(R)N$Na$ab$b_K
1553  #TP0.504 TN0.975 FP0.025 FN0.496 ER0.072 RC0.504 PR0.693 F0.584 k90 FDSCns901sl0N40b50a1.6R1lx0 5671
.541s(1:34:31.540)cat ../../l2voicedata_ueki_all_k70120/ sd=d
1554  #export Fext=pP1F2x23G3x0.5m0 Fext2=p nlz=1 #nlz=norm,max,or 1
1555  (pLPC) #new
1556  #####Exec
1557  if [ "$onlyEnvSet" != 1 ];then ###########  Do Execute
1558  python cpF2D.py -dr $dr -S$ -SD -SD -L $L -Fext -Fext2 $Fext2 -fnerr $fnerr -nlz $nlz
1559  ##
1560  ##[3.11] 特徴ベクトルファイル $dr/[s]-[d][l]-[Fext].dat &
1561  #                          $dr/[Fext]/[s]-[d][l]-p.dat の形式のファイルにコピー ―
1562  ######
1563  export R=1 #0.8
1564  #export dr=$(d1)_k$(l)k$(1)R$($R)N$(a$(a$b$)b)_$(platform); mkdir -p $dr #l>0 for LPC, l=0 for CAN2
1565  #new
1566  #####Exec
1567  if [ "$onlyEnvSet" != 1 ];then ##########  Do Execute
1568  export Fext=pP1F2x23G3x0.5m0 Fext2=p nlz=1 #nlz=norm,max, or 1
1569  python cpF2D.py -dr $dr -S$ -SD -SD -L $L -Fext -Fext2 $Fext2 -fnerr $fnerr -nlz $nlz
1570  fi #for if [ "$onlyEnvSet" != 1 ];then ########## Do Execute
```

```
1571  ######
1572  ######
1573  ####
1574  #[3.2] [3.1]等で作った*-p.dat(on Kurogi's NotePC) から  [1.y と [1].ystat を作る
1575  make data-clean
1576  #(1) *-p.dat から [1.y と [1].ystat を作る
1577  export platform=K
1578  export R=1 #0.8
1579  #export dr=~/sotu/2020/12voicedata_ueki_all_k810R${_R}_${platform}
1580  #export dr=~/sotu/2020/12voicedata_ueki_all_k810R$[N]N$Na$ab$b_K
1581  export dr=${dl}_k${k}]${l}R${R}N${N}$ab$b_${platform};
1582  export dr=${dl}_k${l}${l}R${R}N${N}$a}b${b}_${platform}; mkdir -p $dr  #l>0 for LPC, l=0 for CAN2
(pLPC) #new
for sX in -l 0 1 2 3 4 5 6
1583  export nL=9 a=0.7 b=100 N=40 IDR="_can2m"
1584  export nL=9 a=1.6 b=300 N=40 IDR="_can2m" #IDR to discriminate the Result for real exec
1585  export nL=9 a=1.6 b=50 N=40 IDR="_can2m" #IDR to discriminate the Result for test exec
1586  export nL=9 a=0.7 b=50 N=40 IDR="_can2m" #IDR to discriminate the Result for test exec
1587  export dirp=$dr/pP1F2x23G3x0.5m0
1588  export fnl=`ls $dirp/*-p.dat|head -1`
1589  export k=`cols.sh $fn1`
1590  export S=fhs:fms:mkk:mko:mmt:mnh:mym
1591  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1592  export OnlyEnvSet=0
1593  export OnlyEnvSet=0
1594  ###
1595  for sX in -1 0 1 2 3 4 5 6; do #for sX in -1 ; do # sX=-1 for all OOB, sX>0 for Identification invol
ving unregistered Speaker
1596  cmd="oob4speakerdigit+sX_20201204komatsu_can2m sp:$S tx:$D nL:$nL k:$k mbas:2:${b}:${a}:1 dir:$dirp
s:-1 N:${N} sX:${sX} IDR:$IDR"
1597  echo -n "HExec $cmd \n";
1598  if [ "$OnlyEnvSet" != 1 ];then $cmd ;fi
1599  #if [ "$OnlyEnvSet" != = 1 ];then ####### Do Execute
1600  #obtain Recall, Precesion, F-value of the above ystat
1601  ##
1602  export f=$dirp/oob4s:-1N${N}mbas2:${b}:${a}:1sX${sX}${IDR}.ystat
1603  cmd1="cat $f";echo $cmd1;
1604  if [ "$OnlyEnvSet" = 1 ];then
1605  $cmd1
1606  cat $f|awk 'BEGIN{nsum=0;TP=TN=FP=FN=ERR=0}{if(NR>1){TP+=$7;TN+=$8;FP+=$9;FN+=$10;ERR+=$11;n=$12;nsu
m+=n}}END{RC=TP/(TP+FN);PR=TP/(TP+FP);F=2*RC*PR/(RC+PR);printf("%.3f %.3f %.3f %.3g %.3f %.3f %.3f %d #
### Mean TPR TNR FPR FNR ERR RC PR F n",TP/(TP+FN),TN/(TN+FP),FP/(TN+FP),FN/(TP+FN),ERR/nsum,RC,PR,F,nsum)}
1607  echo " R$(R} sX${sX}"
1608  fi #for if [ "$OnlyEnvSet" != 1 ];then #### Do Execute
1609  done #for for sX in -1 ;
1610  #
1611  ##
1612  ##oob4speakerdigit+sX_20201204komatsu_can2m sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:si:g
o:roku:nana:hachi:kyu nL:9 k:46 mbas:2:50:1.6:1 dir:/home/kuro/sotu/2020/12voicedata_ueki_all_k810R0.8_K/pP1
F2x23G3x0.5m0 s:-1 N:40 sX:-1 IDR:_K
1613
1614  ########
1615  #結果とコメント
1616  少し違うため?
1617  #(b) oob4speakerdigit+sX...と oob4speakerdigit+RX...は正解判定基準も少し違う。
1618  #例えば、fhsと fms を0.8:0.2の比率で混合した音声を、fms を学習した CAN2で正の値(>0)出力した場合、
1619  #結果1
1620  oob4speakerdigit+sX...は不正解とするが oob4speakerdigit+RX...は正解とする。
1621  ## oob4speakerdigit+sX_20201204komatsu_can2m (in ~/sotu/2020/can2m/tsp/) with nL=9 a=1.6 b=50 N=40
can2m(~/sotu/2020/can2m/tsp)
1622  ## oob4speakerdigit+RX_20200910.py (上の[2a.3](in ~/sotu/2020/can2m/tsp/))
1623  #0.463 0.954 0.046 0.537 0.116 0.463 0.625 0.532 4410 ##### Mean TP TN FP FN ERR RC PR F n R1 R0.8 sX-1
can2m(~/sotu/2020/can2m/tsp)
1624  ## oob4speakerdigit+sX_20201204komatsu     (in ~/sotu/2020/can2b/) with nL=9 a=1.6 b=50 N=40
1625  #0.781 0.977 0.023 0.219 0.0508 0.781 0.851 0.815 4410 ##### Mean TP TN FP FN ERR RC PR F n R1 sX-1#c
an2b(~/sotu/2020/can2b/)
1626  0.444 0.956 0.044 0.556 0.117 0.444 0.629 0.521 4410 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX-1
#can2b(~/sotu/2020/can2b/)
1627  ## oob4speakerdigit+RX_20200910.py (上の[2a.3](in ~/sotu/2020/can2m/tsp/))
1628  TP0.775 TN0.978 FP0.022 FN0.225 ER0.051 RC0.775 PR0.855 F0.813 n4410 k46 pP1F2x23G3x0.5m0N40D50a1.6R
llx0sds  2118.327/s(0:35:18.327)
1629  TP0.462 TN0.965 FP0.035 FN0.538 ER0.107 RC0.462 PR0.688 F0.553 n4410 k46 pP1F2x23G3x0.5m0N40b100a1.6
R0.8lx0sds 4437.380s(1:13:57.380)
1630  ##
1631  #結果2
1632  ## oob4speakerdigit+sX_20201204komatsu_can2m (in ~/sotu/2020/can2m/tsp/) with R=1 a=0.7 b=50 N=40 fo
r sX in -1 0 1 2 3 4 5 6
1633  0.767 0.986 0.014 0.233 0.0454 0.767 0.901 0.828 4410 ##### Mean TP TN FP FN ERR RC PR F n R1 sX-1
1634  0.756 0.981 0.019 0.244 0.0568 0.756 0.887 0.816 3240 ##### Mean TP TN FP FN ERR RC PR F n R1 sX
0     1635  0.750 0.980 0.020 0.250 0.0586 0.750 0.880 0.810 3240 ##### Mean TP TN FP FN ERR RC PR F n R1 sX
```

```
1
2  1636  0.783 0.984 0.016 0.217 0.0491 0.783 0.910 0.842 3240 #### Mean TPR TNR FPR FNR ERR RC PR F n R1 sX
   1637  0.815 0.985 0.015 0.185 0.0432 0.815 0.917 0.863 3240 #### Mean TPR TNR FPR FNR ERR RC PR F n R1 sX
3  1638
   1639
   1640  0.770 0.983 0.017 0.230 0.0525 0.770 0.900 0.830 3240 ##### Mean TP TN FP FN ERR RC PR F n R1 sX4
   1641  0.802 0.988 0.012 0.198 0.0432 0.802 0.929 0.861 3240 ##### Mean TP TN FP FN ERR RC PR F n R1 sX5
   1642  0.815 0.987 0.013 0.185 0.042 0.815 0.924 0.866 3240 ##### Mean TP TN FP FN ERR RC PR F n R1 sX6
   1643
   1644  ## oob4speakerdigit+sX_20201204komatsu_can2m (in ~/sotu/2020/can2m/tsp/) with R=0.8 a=0.7 b=50 N=40
for sX in -1 0 1 2 3 4 5 6
   1645  0.397 0.976 0.024 0.603 0.107 0.397 0.733 0.515 4410 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX-1
   1646  0.396 0.967 0.033 0.604 0.128 0.396 0.709 0.508 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX0
   1647  0.426 0.969 0.031 0.574 0.122 0.426 0.730 0.538 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX1
   1648  0.413 0.969 0.031 0.587 0.124 0.413 0.726 0.527 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX2
   1649  0.437 0.969 0.031 0.563 0.12 0.437 0.735 0.548 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX3
   1650  0.424 0.973 0.027 0.576 0.119 0.424 0.758 0.544 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX4
   1651  0.476 0.970 0.030 0.524 0.112 0.476 0.760 0.585 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX5
   1652  0.441 0.975 0.025 0.559 0.114 0.441 0.778 0.563 3240 ##### Mean TP TN FP FN ERR RC PR F n R0.8 sX6
   1653
   1654  ## oob4speakerdigit+sX_20201204komatsu (in ~/sotu/2020/can2b/) with R=1 a=0.7 b=50 N=40 for sX in -1
0 1 2 3 4 5 6
   1655  0.730 0.986 0.014 0.270 0.0503 0.730 0.898 0.806 4410 ##### Mean TP TN FP FN ERR RC PR F n R1 sX-1
   1656  0.754 0.969 0.031 0.246 0.0622 0.754 0.800 0.776 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX0
   1657  0.731 0.965 0.035 0.269 0.0685 0.731 0.776 0.753 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX1
   1658  0.791 0.970 0.030 0.209 0.0556 0.791 0.815 0.803 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX2
   1659  0.800 0.972 0.028 0.200 0.0524 0.800 0.828 0.814 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX3
   1660  0.791 0.968 0.032 0.209 0.0571 0.791 0.806 0.798 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX4
   1661  0.789 0.966 0.034 0.211 0.0595 0.789 0.793 0.791 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX5
   1662  0.809 0.978 0.022 0.191 0.0463 0.809 0.859 0.833 3780 ##### Mean TP TN FP FN ERR RC PR F n R1 sX6
   1663  ###############
   1664  ##
   1665  ##R=0.8
   1666  ## oob4speakerdigit+sX_20201204komatsu_can2m (in ~/sotu/2020/can2m/tsp/)
   1667  #0.464 0.954 0.046 0.536 0.001 0.909 0.464 0.614 4410 ##### Mean TP TN FP FN ERR RC PR F n sX-1 #can
2m(~/sotu/2020/can2m/tsp/)
   1668  ## oob4speakerdigit+sX_20201204komatsu     (in ~/sotu/2020/can2b/)
   1669  #0.444 0.957 0.043 0.556 0.001 0.911 0.444 0.597 4410 ##### Mean TP TN FP FN ERR RC PR F n sX-1 #can
2b(~/sotu/2020/can2b/)
   1670  ## oob4speakerdigit+RX_20200910.py (上の[2a.3](in ~/sotu/2020/can2m/tsp/))
   1671  #TP0.462 TN0.965 FP0.035 FN0.538 ER0.107 RC0.462 PR0.688 F0.553 n4410 k46 pP1F2x23G3x0.5m0N40b100a1.
6R0.8lx0sds 4437.380s(1:13:57.380)
   1672  ##############
   1673  ##
   1674  ###############
   1675  for sX in -1 ; do #for sX in -1 0 1 2 3 4 5 6; do #
   1676  wc ../../12voicedata_ueki_all_k810R0.8_K/pP1F2x23G3x0.5m0/oob4s:-1N40mbas2:50:1.6:1sX${sX}${IDR}.y
   1677  done
   1678  #move to ~/sotu/2020/can2b/readme.can2bonsei
   1679  ################################
   1680  ###############################
   1681
   1682  #export SL=( `echo $S | tr -s ':' ' '`)
   1683  wc ../../12voicedata/allpole/oob4s:-1N40mbas2:50:1.6:1sX-1_K.y
   1684  cat ../../12voicedata/allpole/oob4s:-1N40mbas2:50:1.6:1sX-1_K.ystat|awk
   1685  ################################
   1686  #cmd=`cat {}'.format(fnrX)+' 'awk \ BEGIN{n=0;TP=TN=FP=FN=ERR=0}{n++;TN+=$1;TN=$2;FP+=$3;FN+=$4;ERR+
=$5}END{printf("%.3f %.3f %.3f %.3f %d #mean TP TN FP FN ERR n'+' k{|}sd{|}{}\n",'.format(k,FDextr,args.
sd,etime)+', TP/n,TN/n,FN/n,FN/n,ERR/n,n)}\'+' ">>{}.format(fnrX)
   1687  #cmd=`cat {}'.format(fnrX)+' 'awk \ BEGIN{n=0;TP=TN=FP=FN=ERR=0}{n++;TN+=$1;TN=$2;FP+=$3;FN=$4:ERR+
=$5}END{printf("%.3f %.3f %.3f %.3f %d #mean TP TN FP FN ERR n'+' k{|}sd{|}{}\n"',.format(k,FDextr,args.
   1689  #oob4speakerdigit+sX_20201204komatsu_can2m sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:si:go:r
oku:nana:hachi:kyu nL:9 k:46 mbas:2:50:1.6:1 dir:/home/kuro/sotu/2020/12voicedata_ueki_all_k810R1_K/pP1F2x23
G3x0.5m0 s:-1 N:40 sX:-1 IDR:_can2m
   1691  oob4speakerdigit+sX_20201204komatsu_can2m sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:si:go:r
oku:nana:hachi:kyu nL:9 k:46 mbas:2:50:1.6:1 dir:/home/kuro/sotu/2020/12voicedata_ueki_all_k810R1_K/pP1F2x23
   1693  0.889 0.991 0.009 0.111 0.0238 = 80 535 5 10 15 630 #TP,TN,FP,FN,ER=...#n,sm0
   1694  0.878 1.000 0.000 0.122 0.0175 = 79 540 0 11 11 630 #TP,TN,FP,FN,ER=...#n,sm1
   1695  0.756 0.972 0.028 0.244 0.0587 = 68 525 15 22 37 630 #TP,TN,FP,FN,ER=...#n,sm3
   1696  0.689 0.967 0.033 0.311 0.073 = 62 522 18 28 46 630 #TP,TN,FP,FN,ER=...#n,sm3
   1697  0.744 0.978 0.022 0.256 0.0556 = 67 528 12 23 35 630 #TP,TN,FP,FN,ER=...#n,sm4
   1698  0.778 0.974 0.026 0.222 0.054 = 70 526 14 20 34 630 #TP,TN,FP,FN,ER=...#n,sm5
   1699  0.633 0.977 0.023 0.367 0.073 = 57 527 13 33 46 630 #TP,TN,FP,FN,ER=...#n,sm6
   1700  0.110 0.840 0.017 0.033 0.0508 0.863 0.767 0.812 4410 ##### Mean TP TN FP FN ERR RC PR F n sX-1
   1701  #oob4speakerdigit+sX_20201204komatsu sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:na
na:hachi:kyu:rei:si:sichi:ku ntxi:10 k:36 mbas:2:50:1.6:1 dir:../../2012/12voicedata/allpole s:-1 N:40 sX
:-1 IDR:_K nL:9
   1702  0.952 0.976 0.024 0.048 8.098e-05 0.952 0.964 882 0 #TP,TN,FP,FN,ERR,RC,PR,F,n,sm0
   1703  0.937 0.983 0.017 0.063 9.148e-05 0.982 0.937 0.959 882 1 #TP,TN,FP,FN,ERR,RC,PR,F,n,sm1
```

```
1704   0.968  0.971  0.029  0.032  6.899e-05  0.971  0.968  882  2  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm2
1705   0.976  0.963  0.037  0.024  6.899e-05  0.963  0.976  882  3  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm3
1706   0.889  0.976  0.024  0.024  1.530e-04  0.974  0.889  882  4  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm4
1707   0.929  0.954  0.046  0.071  1.335e-04  0.953  0.929  882  5  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm5
1708   0.873  0.968  0.032  0.127  1.800e-04  0.965  0.873  882  6  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm6
1709   #oob4speakerdigit+sX_201204komatsu   sp:fhs:fms:mkk:mko:mmt:mnh:mym  tx:zero:ichi:ni:san:yon:go:roku:na
na:hachi:kyu:rei:si:sichi:ku ntxi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole s:-1 N:40 s
X:-1 IDR:_A nLi:9
1711   0.984  0.984  0.016  0.016  3.599e-05  0.984  0.984  882  0  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm0
1712   0.968  0.985  0.015  0.032  5.249e-05  0.985  0.968  882  1  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm1
1713   0.944  0.978  0.022  0.056  8.848e-05  0.977  0.944  882  2  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm2
1714   0.937  0.974  0.026  0.063  1.020e-04  0.973  0.937  882  3  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm3
1715   0.937  0.988  0.012  0.063  8.548e-05  0.987  0.937  882  4  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm4
1716   0.944  0.967  0.033  0.056  1.005e-04  0.966  0.944  882  5  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm5
1717   0.921  0.981  0.019  0.079  1.110e-04  0.980  0.921  882  6  #TP,TN,FP,FN,ERR,RC,PR,F,n,sm6
1718
1719
1720
1721   #??old
1722
1723   #word identification (sd=d) with python mkM_lpc.py, M2s.py, oob4speakerdigit+RX_20200910.py
1734
.163s(1:29:35.163) cat ../../12voicedata_ueki_all_LPCk70120p0
1735   #TP0.759 TN0.984 FP0.016 FN0.241 ER0.038 RC0.759 PR0.844 F0.799 k90 FDsCns901s10N40b50a1.6R11x0  5375
1736   #TP0.749 TN0.985 FP0.015 FN0.251 ER0.039 RC0.749 PR0.846 F0.795 k90 FDsCns901s10N40b50a1.6R11x0  5681
.304s(1:34:41.303) cat ../../12voicedata_ueki_all_LPCk80120p0
1737   #TP0.504 TN0.975 FP0.025 FN0.496 ER0.072 RC0.504 PR0.693 F0.584 k90 FDsCns901s10N40b50a1.6R11x0  5057
.572s(1:24:17.572) cat ../../12voicedata_ueki_all_LPCk70120p0
1738
1739   #TP0.768 TN0.974 FP0.026 FN0.232 ER0.056 RC0.768 PR0.830 F0.798 k100 FDsCns100ls10N40b50a1.6R11x0  45
11.661s(1:15:11.661)cat ../../12voicedata_ueki_all_k8N24/
1740   #???
1741   #TP0.736 TN0.984 FP0.016 FN0.264 ER0.052 RC0.736 PR0.883 F0.803 k90 FDsCns901s10N40b50a1.6R11x0  3693
.874s(1:01:33.873) ../../12voicedata_ueki_all_LPCk70120p0
1742   #TP0.726 TN0.984 FP0.016 FN0.274 ER0.052 RC0.726 PR0.889 F0.800 k90 FDsCns901s10N40b50a1.6R11x0  3694
.639s(1:01:34.638) ../../12voicedata_ueki_all_LPCk80120p0
1743   #TP0.728 TN0.982 FP0.018 FN0.272 ER0.054 RC0.728 PR0.873 F0.794 k90 FDsCns901s10N40b50a1.6R11x0  3718
.594s(1:01:58.594) ../../12voicedata_ueki_all_LPCk60120N40
1744   #TP0.519 TN0.955 FP0.045 FN0.481 ER0.107 RC0.519 PR0.658 F0.580 k90 FDsCns901s10N40b50a1.6R11x0  3398
.064s(0:56:38.064) cat ../../12voicedata_ueki_all_LPCk80120
1745
1746   python mkM_lpc.py -dr $dr -R $R -DISP 0 -ow 1 -k  40 -1.20 -mp_th 0.0  -nDisp 5  -dbgi 2
1747   #TP0.722 TN0.979 FP0.021 FN0.278 ER0.058 RC0.722 PR0.850 F0.781 k90 FDsCns901s10N40b50a1.6R11x0  3694
.296s(1:01:34.295)
1749   #TP0.678 TN0.967 FP0.033 FN0.322 ER0.074 RC0.678 PR0.774 F0.723 k90 FDsCns901s10N40b50a1.6R11x0  3637
.420s(1:00:37.420) k20120mp_th0
1750   python mkM_lpc.py -dr $dr -R $R -DISP 0 -ow 1 -k  32 -1.30 -mp_th 0.0  -nDisp 5  -dbgi 2
1751   #TP0.689 TN0.976 FP0.024 FN0.311 ER0.065 RC0.689 PR0.828 F0.752 k90 FDsCns901s10N40b50a1.6R11x0  3660
.214s(1:01:00.214) k32130mp_th0
1752
1753   python oob4speakerdigit+RX_20200910.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:12:3:4:5:6:7:8:9:10 -dr ../../12voicedata_ueki_all_k8 -R 1 -RX 0 -mbas 2:50:1.6:1 -s -
1 -N 40 -sd s -k1 k50120 -FD sC -ns 90 -ls 10 -mel 0 -nlz norm
1755   #TP0.722 TN0.977 FP0.023 FN0.278 ER0.060 RC0.722 PR0.837 F0.775 k90 FDsCns901s10N40b50a1.6R11x0  3672
.884s(1:01:12.884)
1756   #TP0.709 TN0.976 FP0.024 FN0.291 ER0.062 RC0.709 PR0.831 F0.765 k90 FDsCns901s10N40b50a1.6R11x0  3651
1757   #TP0.709 TN0.976 FP0.024 FN0.291 ER0.062 RC0.709 PR0.826 F0.761 k80 FDsCns801s10N40b50a1.6R11x0  3107
.893s(1:00:51.893) k32120mp_th0
1758   #TP0.706 TN0.975 FP0.025 FN0.294 ER0.063 RC0.706 PR0.833 F0.765 k100 FDsCns100ls10N40b50a1.6R11x0  44
.235s(0:51:47.234)
1759   #TP0.701 TN0.977 FP0.023 FN0.299 ER0.063 RC0.701 PR0.825 F0.759 k120 FDsCns120ls10N40b50a1.6R11x0  55
59.871s(1:14:19.871)
1760   #TP0.703 TN0.975 FP0.025 FN0.297 ER0.064 RC0.703 PR0.830 F0.759 k90 FDsCns901s10N50b50a1.6R11x0  4137
52.545s(1:32:32.545)
1761   #TP0.699 TN0.976 FP0.024 FN0.301 ER0.063 RC0.699 PR0.803 F0.749 k90 FDsCns901s10N30b50a1.6R11x0  3214
.625s(1:08:57.624)
1762   #TP0.702 TN0.971 FP0.029 FN0.298 ER0.067 RC0.702 PR0.803 F0.749 k90 FDsCns901s10N30b50a1.6R11x0  3214
.673s(0:53:34.672)
1763
```

```
1764   #elapsed time:3651.893s(1:00:51.893s)@2020-12-12 00:19:15.671440 for m6:mym
1765   0.727  0.977  0.023  0.273  0.059 = 72 585 14 27 41 # 698 fhs  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,
R,RX,mbas,N
1766   0.760  0.985  0.015  0.240  0.047 = 76 589  9 24 33 # 698 fms  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,R
,RX,mbas,N
1767   0.860  0.970  0.030  0.140  0.046 = 86 580 18 14 32 # 698 mkk  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,
R,RX,mbas,N
1768   0.630  0.985  0.015  0.370  0.066 = 63 589  9 37 46 # 698 mko  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,R
,RX,mbas,N
1769   0.667  0.972  0.028  0.333  0.072 = 66 582 17 33 50 # 698 mmt  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,
R,RX,mbas,N
1770   0.680  0.960  0.040  0.320  0.080 = 68 574 24 32 56 # 698 mnh  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,
R,RX,mbas,N
1771   0.640  0.983  0.017  0.360  0.066 = 64 588 10 36 46 # 698 mym  1 0 2:50:1.6:1 40 #TP,TN,FP,FN,ER=...#n,m,
R,RX,mbas,N
1772   #TP0.709 TN0.976 FP0.024 FN0.291 ER0.062 RC0.709 PR0.831 F0.765 k90 FDsCns901s10N40b50a1.6R11x0  3651
.893s(1:00:51.893)
1773
1774   #下述の「20191118 #20180606の再試行+修正」の(1)˜
1775   (3-2a-1) M2PC.py     で*-PC.dat という ファイルを作り、各行に は Px Py Cx Cy を保存.
1776   # M を部分分数 C_i/(1-P_i z^(-1)) に展開し、
1777   # 極:P_i を   P = Px + j Py = exp(a+jw) = r exp(jw)
1778   # 零:C_i を   C = Cx + j Cy = c exp(jb)
1779   rm -f nohup.out:nohup python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 &
1780
1781   export dl=./../12voicedata_ueki_all;
1782   #export dr=${dl}_k8: #mkdir -p $dq  #pole new
1783   #export dr=${dl}_k${1}s${1}R${R}N${N}a$ab$b_$(platform);
1784   #export dr=${dl}_k${1}s${1}R${N}${N}a${a}b${b}_$(platform); mkdir -p $dr  #l>0 for LPC, l=0 for CAN2
(pLPC)  #new
1785   export sX=-1:a=1.6;b=10:N=40:# for short time check
1786   export sX=-1:a=1.6;b=40:N=100: #??
1787   export sX=-1:a=1.6;b=40:N=400: #????
1788   export sX=-1:a=1.6;b=400:N=40: #?best 18aihc!
1789   export sX=-1:a=1.6;b=300:N=40: #?
1790   export sX=-1:a=1.6;b=100:N=50: #?
1791   export sX=-1:a=0.7;b=100:N=30: #
1792   export sX=-1:a=1.6;b=100:N=40: #
1793   export mbas=2:${b}:${a}:1
1794   #
1795   export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1796   export S=fhs:fms:mkk:mko:mmt:mnh:mym
1797   export R=0.8: RX=0 #R=1
1798   nlz=norm
1799   ###
1800   # set Feature size nx for (nx)*(nx/2)-recutangular image , and nr and na for (nr)*(na)-polar image
1801   ###
1802   export nx=10 na=26 #nx=((nr*na)*2)**(0.5):print 'nx=',int(nx+0.5)nx= 10
1803   export nx=10 na=12 #nx=((nr*na)*2)**(0.5):print 'nx=',int(nx+0.5)nx= 10
1804   export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
1805   #
1806   export FD=rP1 #pP1 pPc pPcb rP1 rPc rPcb
1807   export FD=pP1 #pP1 pPc pPcb rP1 rPc rPcb
1808   export FD=pPc #pP1 pPc pPcb rP1 rPc rPcb
1809   export mel=0  1x=0  #0
1810   #
1811   rm -f nohup.out;
1812   #(2-0) 上記パラメータを持つxPyファイルの存在を調べ、なければ作る˜(1-3-2)
1813   #(2-0) 上記パラメータを持つxPyファイルの存在確認
1814   #nfn='ls ${dr}/*-R${R}-FD${FD}ns${ns}ls${ls}.dat|wc -l';echo -n "#$nfn spectrum files"
1815   export nfn='ls ${dr}/*-R${R}-FD${FD}ns${ns}ls${ls}.dat:export nfn='ls $fn|wc -l';echo "#nfn=$nfn files ex
ist"
1816   if [ "${FD:0:1}" == "p" ]; then #xPyファイルの存在確認
1817   #nfn='ls ${dr}/*-R${R}/*-R${R}-$(FD)F${nr}x${na}G${nG}x${sG}m${mel}.dat|wc -l'
1818   export fn=${dr}/*-R${R}/*-zero9-R$(R)-$(FD)F${nr}x${na}G${nG}x${sG}m${mel}.dat:export nfn='ls ${nx}${sG}m${mel}.dat
fn=$nfn files exist"
1819   #fn=${dr}/mym-zero9-R${R}*-$(FD)F$(nr)x${na}G${nG}x${sG}m${mel}.dat
1820   else
1821   export fn=${dr}/mym-zero9-R${R}*-$(FD)F${nx}G${nG}x${sG}.dat:export nfn='ls $fn|wc -1';echo "#nfn=$nfn
files exist"
1822   #nfn='ls ${dr}/*-R${R}/*-R${R}-$(FD)F${nx}G${nG}x${sG}.dat|wc -1'
1823   export fn=${dr}/*-R${R}/*-zero9-R${R}*-$(FD)F${nx}G${nG}x${sG}.dat
1824   fi
1825   if [ "$nfn" -eq 698 ]; then # if [ ! -e $fn ]; then #ファイルがなければ作る名
1826   #if [ ! -e $fn ]; then #xPyファイルがなければ作る (1-3-2)
1827   cmd0="python PC2xPy.py -dr $dr -R $R -rmax 2  -ow 1 -nx $nx -na $na -nG $nG -sG $sG -mel $mel
-DISP 0"
1828   echo "#Execute ${cmd0}"
1829   ${cmd0} > nohup.out
1830   fi
1831   #(2-1) 学習と話者識別実行 (時間がかかる)
1832   cmd="python oob4speakerdigit+RX_20191113.py  -sp $S -tx $D  -L $L -dr $dr -R $R -RX $RX -mbas $mbas -s
```

```
     -1 -N ${N} -sX ${sX} -FD ${FD} -nx $nx -nr=$nr -na=$na -nG $nG -sG $sG -mel -nlz -lx "$lx"
1833  echo "#Execute ${cmd}"
1834  nohup ${cmd}&
1835
1836  #20200919 for levinson_durbun.py for lpc-spectrum envelope spokenword verification
1837
1838  ##############################################################
1839  #(0) 前処理（データ正規化）（以前の処理と同じ）
1840  #(0) See 20191205 for #(0) 前処理（データ正規化）（以前の処理と同じ）
1841  #(1) LPC係数を求める
1842  python levinson_durbin.py -yin ../../l2voicedata_ueki_all_n/mym-ku10.dat
1843  python lpcspectrumenvelope.py -k 34 -yin ../../l2voicedata_ueki_all_n/mym-ku10.dat
1844  #check 20210208
1845  export S=mmt L=8 D=ichi k=56 #check 20210208
1846  #python levinson_durbin.py -yin ../../l2voicedata_ueki_all_n/${S}-${D}${L}.dat
1847  python lpcspectrumenvelope.py -k $k -l 20 -yin ../../l2voicedata_ueki_all_n/${S}-${D}${L}.dat -nDisp
1848
1849  #(2) 極を計算
1850  ##############################################################
1851  #20200909 for spokenword verification
1852  ##############################################################
1853  See [2] after #20200521 for ICONIP2020
1854  oob4speakerdigit+RX_20200910.py
1855  ##############################################################
1856  #[2] 学習と識別実験
1857  #############
1858  #連想行列１つ毎にリストアップ
1859  make all-clean:make
1860  d1=.:./l2voicedata_ueki_all:
1861  dr=${d1}_k8: #mkdir -p $dr  #
1862  df=${d1}_f
1863  export R=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1864  export S=fhs:fns:mkk:mko:mmt:mnh:mym
1865  export R=1; RX=0  #R=1
1866  export nlz=norm
1867  export sX=1;a=1.6;b=100:N=40; #
1868  export R=1 #R=1.0:8:0.6:0.4:0.2
1869  export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
1870  export FD=rP1 #pP1 pPc pPcb rP1 rPc rPcb
1871  export FD=rP1 #pP1 pPc pPcb rP1 rPc rPcb
1872  export URA=0 #1 for use real axis, 0 for negrect real axis PC2xPy.py,
1873  export mel=0 lx=0 #0
1874  export sX=1;a=1.6;b=100:N=40; #
1875  export sX=1;a=1.6;b=50:N=40: #
1876  export mbas=2:${b}:${a}:1
1877  export nx=14 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
1878  export nx=16 nr=4 na=26 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
1879
1880  rm -f nohup.out;
1881  #(2-0) 上記パラメータを持つxPyファイルの存在を調べ、なければ作る ← (1-3-2)
1882  if [ "${FD:0:1}" == "P" ]; then #xPyファイルの存在確認
1883  fn=${dr}/mym-zero9-R${R}*-${FD}F${nx}G${nG}x${sG}m${mel}.dat
1884  else
1885  fn=${dr}/mym-zero9-R${R}*-${FD}F${nx}G${nG}x${sG}.dat
1886  fi
1887  if [ ! -e "$fn" ]; then #xPyファイルが受け付わば作る(1-3-2) #URAは特別処理 ？？
1888  cmd0="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr -na $na -nG $nG -sG $sG -mel $mel
1889  -DISP 0 -URA $URA"
1890  echo "#Execute ${cmd0}"
1891  ${cmd0} > nohup.out
1892  fi
1893  #(2-1) 学習と話者識別実行（時間がかかる）
1894  make
1895  #(1) tune a,b,N via checking error for sX of speaker-CAN2 with "-s -1"
1896  #(2) tune a,b,N via checking error for sX of digit-CAN2 with "-d -1"
1897  export ow=0 #Do not do make clean:Use previous learning
1898  export ow=1 #make clean
1899  #export sd=d #digit(word) verification #old version
1900  #export sd=s #speaker verification #old version
1901  #export sd=d #digit(word) verification #new version
1902  cmd="python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -s
     $sd -N ${N} -sX ${sX} -FD ${FD} -nx $nx -nr=$nr -na=$na -nG $nG -sG $sG -mel $mel -nlz $nlz -lx $lx -ow $o
     w"
1903  #python oob4speakerdigit+RX_20200910.py -sp fhs:fns:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:go:r
     oku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9:10 -dr ../../l2voicedata_ueki_all_k8 -R 1 -RX 0 -mbas 2:100:1.6:1 -s
     d -N 40 -sX -1 -FD pP1 -nx 16 -nr=4 -na=24 -nG 3 -sG 0.5 -mel 0 -nlz norm -lx 0
1904  echo "#Execute ${cmd}"
1905  nohup ${cmd}&
1906
1907
```

```
1908  #(2-2)実行状況確認
1909  grep "time\|start" nohup.out
1910  ##result ../tspomp sd=d digit(word) verification
1911  #sd=d
1912  #TP0.841 TN0.991 FP0.009 FN0.159 ER0.024 RC0.841 PR0.909 F0.874 k104 pP1F4x26G3x0.5m0N40b50a1.6R11x0
       1842.005s(0:30:42.004) 0:30:42
1913  #TP0.835 TN0.989 FP0.011 FN0.165 ER0.027 RC0.835 PR0.890 F0.862 k52 pP1F2x26G3x0.5m0N40b50a1.6R11x0
       738.505s(0:12:18.505) 0:12:18
1914
1915  #TP0.825 TN0.990 FP0.010 FN0.175 ER0.027 RC0.825 PR0.899 F0.860 k108 pP1F4x27G3x0.5m0N40b50a1.6R11x0
       1945.910s(0:32:25.910) 0:32:25
1916  #TP0.840 TN0.991 FP0.009 FN0.160 ER0.024 RC0.840 PR0.909 F0.873 k100 pP1F4x25G3x0.5m0N40b50a1.6R11x0
       1740.657s(0:29:00.656) 0:29:00
1917  #TP0.831 TN0.990 FP0.010 FN0.169 ER0.026 RC0.831 PR0.902 F0.865 k112 pP1F4x28G3x0.5m0N40b50a1.6R11x0
       2048.936s(0:34:08.935) 0:34:08
1918  #TP0.840 TN0.990 FP0.010 FN0.160 ER0.025 RC0.840 PR0.903 F0.870 k96 pP1F4x24G3x0.5m0N40b50a1.6R11x0
       1638.738s(0:27:18.738) 0:29:32
1919  #TP0.842 TN0.988 FP0.012 FN0.158 ER0.026 RC0.842 PR0.890 F0.865 k48 pP1F2x24G3x0.5m0N40b50a1.6R11x0
       661.394s(0:11:01.394) 0:11:01
1920  #TP0.775 TN0.990 FP0.010 FN0.225 ER0.032 RC0.775 PR0.894 F0.830 k156 pP1F6x26G3x0.5m0N40b50a1.6R11x0
       3375.438s(0:56:15.438) 0:56:15
1921
1922  ##result ../tspomp sd=s speaker verification
1923  #TP0.784 TN0.984 FP0.016 FN0.216 ER0.044 RC0.784 PR0.894 F0.835 k104 pP1F4x26G3x0.5m0N40b50a1.6R11x0
       1302.863s(0:21:42.863)0:21:42
1924  #TP0.779 TN0.983 FP0.017 FN0.221 ER0.046 RC0.779 PR0.882 F0.827 k52 pP1F2x26G3x0.5m0N40b50a1.6R11x0
       508.526s(0:08:28.525)
1925
1926  #TP0.787 TN0.984 FP0.016 FN0.213 ER0.044 RC0.787 PR0.890 F0.835 k100 pP1F4x25G3x0.5m0N40b50a1.6R11x0
       1264.300s(0:21:04.300)0:21:04
1927  #TP0.782 TN0.983 FP0.017 FN0.218 ER0.046 RC0.782 PR0.882 F0.829 k96 pP1F4x24G3x0.5m0N40b50a1.6R11x0
       1150.206s(0:19:10.206)0:19:10
1928  #TP0.781 TN0.984 FP0.016 FN0.219 ER0.045 RC0.781 PR0.888 F0.831 k108 pP1F4x27G3x0.5m0N40b50a1.6R11x0
       1357.162s(0:22:37.162)0:22:37
1929
1930  ##
1931  #b=50 #elapsed time:8152.494s(2:15:52.494)@2020-09-11 11:48:34.854241 for m9:kyu
1932  #TP0.840 TN0.990 FP0.010 FN0.160 ER0.279 RC0.840 PR0.903 F0.870 k96 pP1F4x24G3x0.5m0N40b50a1.6R11x0
       8152.494s(2:15:52.494)
1933  #b=100
1934  #TP0.854 TN0.992 FP0.008 FN0.146 ER0.021 RC0.854 PR0.925 F0.888 k96 pP1F4x24G3x0.5m0N100a1.6R11x0
       14623.871s(4:03:43.871)
1935
1936  ##spectrum envelope? #see #20200211
1937  ################################################
1938  #(SE2) 学習と話者識別
1939  ################################################
1940  export dr=../../l2voicedata_ueki_all_k8
1941  #final used 20iconip
1942  #export S=mmt D=ichi L=8  #for figures in 18aihc, 20iconip
1943  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
1944  export S=fhs:fns:mkk:mko:mmt:mnh:mym
1945  export L=1:2:3:4:5:6:7:8:9:10
1946  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum      FD=s for original spectrum
1947  export FD=S ns=100 ls=10 #ls[0]=1 for log after sum      FD=S for log|sum_m 1/(1-Pm exp(-jw n))|
1948  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum      log|sum_m 1/(1-Pm exp(-jw n))|
1949  export FD=S ns=110 ls=10 #ls[0]=1 for log after sum      log|sum_m 1/(1-Pm exp(-jw n))| compare
1950  export FD=S ns=90 ls=10 #ls[0]=1 for log after sum       log|sum_m 1/(1-Pm exp(-jw n))| compare
1951  export FD=S ns=100 ls=10 #ls[0]=1 for log after sum      original spectrum
1952  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum      original spectrum
1953
1954  #make all-clean:make
1955  export sd=d
1956  export sd=s
1957  export fn=${dr}/mym-zero9-R1*FD${FD}ns${ns}ls${ls}.dat
1958  #../../l2voicedata_ueki_all_k8/fhs-san6-R1-FDsns90ls10.dat created
1959  if [ ! -e $fn ]; then #ファイルが受け付わば作る
1960  python M2s.py -dr $dr -R 1 -ow 1 -DISP 00 -dbg1 1 -ns $ns -ls -FD $FD -rap 0
1961  fi
1962  cmd="python oob4speakerdigit+RX_20200910.py -sp $S -tx $D -L $L -dr $dr -R 1 -RX 0 -mbas 2:50:1.6:1
       -s -1 -N 40 -sd $sd -FD $FD -ns $ns -ls -mel 0 -nlz norm";
1963  #rm -f nohup.out;nohup ${cmd}&
1964  cat >cmd.sh <<EOF
1965  #!/bin/bash -x
1966  ${cmd};
1967  #export LANG=C;export d=\'date\'
1968  notify-send -t 10000 -i dialog-information -u critical 'Finish'
1969  EOF
1970  rm -f nohup.out;nohup sh cmd.sh&
1971
1972  #(2-2)実行状況確認 grep "time\|start" nohup.out
1973  #(2-3)最終結果確認 tail -15 nohup.out
```

```
1974  #sd=s FD=s original spectrum b=100
1975  #TP0.692 TN0.971 FP0.029 FN0.308 ER0.069 RC0.692 PR0.797 F0.741 k90 FDsns90ls10N40b100a1.6R11x0 1766
.639s(0:29:26.639).
1976
1977  #sd=s FD=s original spectrum
1978  #TP0.679 TN0.964 FP0.036 FN0.321 ER0.076 RC0.679 PR0.761 F0.718 k90 FDsns90ls10N40b50a1.6R11x0 1017.
449s(0:16:57.449)
1979  #TP0.676 TN0.963 FP0.037 FN0.324 ER0.078 RC0.676 PR0.755 F0.714 k100 FDsns100ls10N40b50a1.6R11x0 123
6.589s(0:20:36.588)
1980  #TP0.650 TN0.961 FP0.039 FN0.350 ER0.083 RC0.650 PR0.737 F0.691 k80 FDsns80ls10N40b50a1.6R11x0 876.1
68s(0:14:36.168)
1981  #TP0.668 TN0.967 FP0.033 FN0.332 ER0.076 RC0.668 PR0.772 F0.716 k110 FDsns110ls10N40b50a1.6R11x0 137
1.620s(0:22:51.620)
1982
1983  #sd=d FD=s original spectrum
1984  #TP0.722 TN0.975 FP0.025 FN0.278 ER0.050 RC0.722 PR0.761 F0.741 k90 FDsns90ls10N40b50a1.6R11x0 1523.
209s(0:25:23.208)?
1985  #TP0.715 TN0.974 FP0.026 FN0.285 ER0.052 RC0.715 PR0.752 F0.733 k100 FDsns100ls10N40b50a1.6R11x0 170
9.331s(0:28:29.330)
1986  #TP0.699 TN0.976 FP0.024 FN0.301 ER0.052 RC0.699 PR0.762 F0.729 k110 FDsns110ls10N40b50a1.6R11x0 199
1.089s(0:33:11.088)
1987  #TP0.695 TN0.973 FP0.027 FN0.305 ER0.055 RC0.695 PR0.739 F0.716 k80 FDsns80ls10N40b50a1.6R11x0 1260.
345s(0:21:00.344)
1988  ################################
1989  #sd=s FD=S
1990  #TP0.769 TN0.977 FP0.023 FN0.231 ER0.053 RC0.769 PR0.848 F0.807 k100 FDSns100ls10N40b50a1.6R11x0 119
7.556s(0:19:57.556)
1991  #TP0.768 TN0.976 FP0.024 FN0.232 ER0.054 RC0.768 PR0.843 F0.804 k90 FDSns90ls10N40b50a1.6R11x0 1021.
283s(0:17:01.282)
1992  #TP0.754 TN0.978 FP0.022 FN0.246 ER0.054 RC0.754 PR0.853 F0.800 k110 FDSns110ls10N40b50a1.6R11x0 137
9.070s(0:22:59.069)
1993  #sd=d FD-S pole spectrum
1994  #TP0.828 TN0.989 FP0.011 FN0.172 ER0.028 RC0.828 PR0.889 F0.858 k100 FDSns100ls10N40b50a1.6R11x0 170
9.691s(0:28:29.690)
1995  #TP0.821 TN0.987 FP0.013 FN0.179 ER0.030 RC0.821 PR0.876 F0.848 k95 FDSns95ls10N40b50a1.6R11x0 1585.
425s(0:26:25.424)
1996  #TP0.819 TN0.985 FP0.015 FN0.181 ER0.031 RC0.819 PR0.861 F0.840 k105 FDSns105ls10N40b50a1.6R11x0 184
7.486s(0:30:47.485)
1997  #TP0.663 TN0.970 FP0.030 FN0.337 ER0.061 RC0.663 PR0.708 F0.685 k110 FDSns110ls10N40b50a1.6R11x0 182
1.215s(0:30:21.214)
1998  #TP0.799 TN0.982 FP0.018 FN0.201 ER0.036 RC0.799 PR0.835 F0.817 k90 FDSns90ls10N40b50a1.6R11x0 1477.
823s(0:24:37.822)
1999
2000
2001
2002  #####################################################
2003  #####################################################
2004  #2020521 for ICONIP2020
2005  #2020521 for iconip2020
2006  [1]グラフ出力 for iconip2020
2007  #連想行列１つ毎にストップ
2008  dl=../../12voicedata_ueki_all;
2009  dr=${dl}_k8; #mkdir -p $dr #
2010  df=${dl}_f
2011  R=1 #R=1:0.8:0.6:0.4:0.2
2012  export nx=16 nr=4 na=24 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2013  export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2014  export mel=0 dbgi=1     #for aihc
2015  export S=nmt D=ichi L=2 #for aihc
2016  export S=nmt D=ichi L=8 #for aihc
2017  export URA=0 #1 for use real axis, 0 for negrect real axis PC2xPy.py,
2018  cmd="python PC2xPy1.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr $nr -na $na -nG $nG -sG -mel $mel
-DISP 1 -S $S -D $D -L $L -dbgi $dbgi ;echo $cmd
2019  $cmd
2020  #
2021  fig=plt.figure(figsize=(5,5),dpi=300)
2022  gs=gridspec.GridSpec(1,1)
2023  gs=gridspec.GridSpec(1,1)
2024  Ytlg=[j/2. for j in range(2*int(rmax)+1)] #0.5刻み
2025  Ytg=[nr-(j/2.)*nr/rmax) for j in range(2*int(rmax)+1)]
2026  Xtlq=['{}pi/4'.format(4-j) for j in range(5)]
2027  Xtg=[(j/4)*(na/pi) for j in range(4)]
2028  Xtg=[j for j in range(0,na,9)]
2029  Xtlq=['{:.0f}pi/{}'.format(j,na) for j in range(0,na,9)]
2030  Xtq.append(na-1)
2031  Xtlq.append('pi')
2032  Xtg=[0,na/2,na-1]
2033  Xtlq=[0,'pi/2','pi']
2034  Ytg=[0,(nr)/2,,nr]
2035  Ytlq=['{:.1g}'.format(rmax),'{:.1g}'.format(rmax/2.),0]
2036  Ytbq=[0,nr/2,nr,nr*3/2,2*nr-1]
2037  Ytlbq=[('{:.1g}'.format(rmax),'{:.1g}'.format(rmax/2.),0,'{:.1g}'.format(rmax/2.),'{:.1g}'.format(rma
```

```
x>]
2038  fig.add_subplot(gs[0,0],xticks=Xtg,xticklabels=Xtg,xticklabels=Xtg,yticks=Ytg,yticklabels=Ytlg)
2039  mx=qcDisp.max()
2040
2041  plt.imshow(qcDisp/mx,cmap=cmap,interpolation='none');
2042  plt.colorbar(fraction=0.05,pad=0.04);
2043  plt.clim(0,1)
2044  fn='pPc-{}-{}.eps'.format(s,d,1)
2045  plt.savefig(fn)
2046  #
2047  myshell('gv {}&'.format(fn))
2048
2049  mx=qlDisp.max()
2050  plt.imshow(qlDisp/mx,cmap=cmap,interpolation='none');
2051  plt.colorbar(fraction=0.05,pad=0.04);
2052  plt.clim(0,1)
2053  fn='rpPl-{}-{}.eps'.format(s,d,1)
2054  plt.savefig(fn)
2055  myshell('gv {}&'.format(fn))
2056  print 'qcmax={} qlmax={}'.format(qcDisp.max(),qlDisp.max())
2057  #qcmax=4.80209740024 qlmax=138.297056041
2058
2059  #plt.title('pPcG=P.c*G (/{:.2g}}').format(mx));
2060  #plt.show()
2061  #plt.savefig('rpPc-{}-{}.eps'.format(s,d,1)
2062  #plt.close()
2063
2064  #
2065  fnb=$dr/poles-${S}-${D}-${L}
2066  cat > tmp.plt <<EOF
2067  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
2068  set terminal tgif; set output "${fnb}.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y3=0.7;dd=
0.4;
2069
2070  set size square ;
2071  set key font "Arial,50"
2072  unset key #hanrei-hihyouji
2073  plot [0:2*pi][-2:2][-2:2] "${fnb}.txt" using 1:2 w p pt 6 ps 0.2 lc rgb "black" t "${S}-${D}-${L}",
cos(t),sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "green", 2*cos(t),2*sin(t) t "1.0" w 1 ls 1 lw 5 lc rgb "red"
2074  EOF
2075  gnuplot tmp.plt
2076  tgif ${fnb}.obj&
2077
2078  cp $dr/poles-${S}-${D}-${L}.* /media/sf_C_DRIVE/cdata/20iconip/figs/
2079  cp ~/Downloads/mmt-ichi8-R1.png /media/sf_C_DRIVE/cdata/20iconip/figs/
2080  cp *.eps /media/sf_C_DRIVE/cdata/20iconip/figs/
2081  ###################
2082  ###################
2083  [2] 学習と識別実験
2084  ###################
2085  #連想行列１つ毎にストップ
2086  make all-clean=make
2087  dl=../../12voicedata_ueki_all;
2088  dr=${dl}_k8; #mkdir -p $dr #
2089  df=${dl}_f
2090  export L=1:2:3:4:5:6:7:8:9:10
2091  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
2092  export S=fhs:fma:mkk:mko:mmt:mnb:mym
2093  export R=1: RX=0 #R=1
2094  export nl=norm
2095  export R=1 #R=1:0.8:0.6:0.4:0.2
2096  export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2097  export FD=rPl #pPl pPc pPcb rPl rPc rPcb
2098  export FD=pPl #pPl pPc pPcb rPl rPc rPcb
2099  export URA=0 #1 for use real axis, 0 for negrect real axis PC2xPy.py,
2100  export mel=0 lx=0 #0
2101  export sX=-1:a=1.6:b=100:N=40: #
2102  export mbas=2:${b}:${a}:1
2103  export nx=14 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2104  export nx=16 nr=4 na=24 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2105
2106  rm -f nohup.out;
2107  #(2-0)上記パラメータを持つxPyファイルの存在を調べ、なければ作る ← (1-3-2)
2108  if [ "${FD:0:1}" == "p" ]; then #xPyファイルの存在確認
2109  fn=${dr}/mym-zero9-R${R}*-${FD}${nr}x${na}G${nG}x${sG}m${mel}.dat
2110  else
2111  fn=${dr}/mym-zero9-R${R}*-${FD}F${nx}G${nx}G${sG}{nG}x${sG}.dat
2112  fi
2113  if [ ! -e $fn ]; then #xPyファイルがなければ作る (1-3-2) #URAは特別処理 ？？
2114  cmd0="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr $na -nG $nG -sG -mel $mel
-DISP 0 -URA $URA"
```

```
2115  echo "#Execute ${cmd0}"
2116  ${cmd0} > nohup.out
2117  fi
2118  # (2-1) 学習と話者識別実行 (時間がかかる)
2119  make
2120  cmd="python oob4speakerdigit+RX_20191113.py -sp -S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -s
-1 -N ${N} -sX ${sX} -FD ${FD} -nx $nx -nr=$nr -na=$na -nG $nG -sG $sG -mel $mel -nlz $nlz -lx $lx"
2121  echo "#Execute ${cmd}"
2122  nohup ${cmd}&
2123  # (2-2) 実行状況確認
2124  #
2125  grep "time\|start" nohup.out
2126  #
2127  ###Ubuntu12.04
2128  #TP0.784 TN0.984 FP0.016 FN0.216 RC0.045 RC0.784 PR0.891 pP1F4x23G3x0.5mON40b100a1.6R11x k92
2309.476s(0:38:29.475)
2129  #TP0.797 TN0.986 FP0.014 FN0.203 RC0.041 RC0.797 PR0.903 pP1F4x24G3x0.5mON40b100a1.6R11x k96
2326.076s(0:38:46.076)  ***
2130  #TP0.791 TN0.986 FP0.014 FN0.209 RC0.042 RC0.791 PR0.903 pP1F4x25G3x0.5mON40b100a1.6R11x k100
2487.67s(0:41:27.678)
2131  #TP0.771 TN0.981 FP0.019 FN0.229 RC0.049 RC0.771 PR0.872 pP1F3x24G3x0.5mON40b100a1.6R11x k72
2053.208s(0:34:13.208)
2132  #TP0.758 TN0.987 FP0.013 FN0.242 RC0.045 RC0.758 PR0.909 pP1F5x24G3x0.5mON40b100a1.6R11x k120
3844.337s(1:04:04.337)
2133  #
2134  #4x23
2135  #TP0.691 TN0.982 FP0.018 FN0.309 RC0.060 RC0.691 PR0.768 pPcF4x23G3x0.5mON40b100a1.6R11x k92
3167.288s(0:52:47.287)  +++
2136  #TP0.676 TN0.981 FP0.019 FN0.324 RC0.063 RC0.676 PR0.854 pPcF4x24G3x0.5mON40b100a1.6R11x k96
2561.761s(0:42:41.760)
2137  #TP0.679 TN0.982 FP0.018 FN0.321 RC0.061 RC0.679 PR0.865 pPcF4x25G3x0.5mON40b100a1.6R11x k100
3254.192s(0:54:14.191)
2138  #TP0.646 TN0.978 FP0.022 FN0.354 RC0.070 RC0.646 PR0.829 pPcF3x24G3x0.5mON40b100a1.6R11x k72
2558.519s(0:42:38.518)
2139  #TP0.609 TN0.984 FP0.016 FN0.391 RC0.070 RC0.609 PR0.862 pPcF5x24G3x0.5mON40b100a1.6R11x k120
3874.549s(1:04:34.548)
2140  #executing
2141  ###############
2142  #export nx=16 nr=4 na=22 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2143  #export nx=16 nr=3 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2144  #export nx=16 nr=5 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2145  ###############
2146  ###############
2147  ###############
2148  #TP0.788 TN0.985 FP0.015 FN0.212 RC0.043 RC0.788 PR0.896 pP1F4x24G3x0.5mON40b100a1.6R11x k96
58.338s(1:00:58.338)  ***
2149  365.241s(0:39:25.241)with real axis-worse
2150  #TP0.679 TN0.985 FP0.015 FN0.321 RC0.059 RC0.679 PR0.884 rP1F17G3x0.5N40b100a1.6R11x0 40
06.921s(1:06:46.920)U12.04
2151  #TP0.696 TN0.984 FP0.016 FN0.304 RC0.057 RC0.696 PR0.879 rP1F16G3x0.5N40b100a1.6R11x0 36
2152  #TP0.777 TN0.980 FP0.020 FN0.223 RC0.049 RC0.777 PR0.866 rP1F15G3x0.5N40b100a1.6R11x0 29
01.829s(0:48:21.828)
2153  #TP0.685 TN0.979 FP0.021 FN0.315 RC0.063 RC0.685 PR0.842 rP1F14G3x0.5N40b100a1.6R11x0 29
75.630s(0:44:35.629)
2154  #TP0.689 TN0.984 FP0.016 FN0.311 RC0.058 RC0.689 PR0.881 rP1F16G3x0.5N40b100a1.6R11x0 18
385.860s(5:06:25.860)
2155  #TP0.670 TN0.980 FP0.020 FN0.330 RC0.064 RC0.670 PR0.849 rP1F14G3x0.5N40b100a1.6R11x0 12
473.463s(3:27:53.463) U14.04
2156  ###############
2157  ###############
2158  #export S=nmmt D=ichi L=1 dbgi=1
2159  #cmd="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr -na $na -nG $nG -sG $sG -mel $mel
-DISP 1 -S $S -D $D -L $L -dbgi $dbgi";echo $cmd
2160  #???
2161  #20200211
2162  http://sdmwww.ssi.ist.hokudai.ac.jp/lecture/signal/presen12.pdf ?
2163  http://aidiary.hatenablog.com/entry/20120415/1334458954 ?
2164  #(SEI)‘運智行列Mから、スペクトル包絡 (SE:spectrum envelope)を計算(動作チェック)。結果は$dr/*-PC.dat
2165  #LPC係数をフィルタ係数とみなして剛波数応答を求める
2166  #export dr=../../l2voicedata_ueki_all_k8
2167  #FD=S for standard spectrum envelope, FD=S for spectrum with pole weight=1
2168  #cmd="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr -na $na -nG $nG -sG $sG -mel $mel
2169  LPCspectrum envelope
2170  ###############
2171  ###############
2172  ###############
2173  #export dr=../../l2voicedata_ueki_all_k8
2174  #FD=S for standard spectrum envelope, FD=S for spectrum with pole weight=
2175  #export FD=SR ns=100 ls=10 #FD=S for spectrum with pole weight, FD=S for log10 after the mean
2176  #ls[0]='1' for log10 before the mean, ls[1]='1' for log10 after the mean
```

```
2178  #export FD=s ns=100 ls=00 #ls[0]=0 for no-log     #FD=SR for use real-axis, S for without real-axis
2179  #export FD=s ns=100 ls=10 #ls[0]=1 for log        log |Hm|
2180  #export FD=s ns=100 ls=20 #ls[0]=1 for log befre sum   log |Hm|/|(1-Pm exp(-jw n)|
2181  #export FD=S ns=100 ls=00 #ls[0]=0 for no-log         sum_m 1/(1-Pm exp(-jw n)|
2182  #final used 20iconip
2183  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum      log|sum_m 1/(1-Pm exp(-jw n)|
2184  export FD=S ns=100 ls=10 #ls[0]=1 for log after sum      log|sum_m 1/(1-Pm exp(-jw n)|
2185  export S=nmmt D=ichi L=8  #for figures in 18aihc, 20iconip
2186  python M2s.py -dr $dr -R 1 -ow 1 -DISP 10 -dbgi 1 -ns $ns -ls $ls -FD $FD -S $S -D $D -L $L
2187  #
2188  fn='qHc-{}-{}.eps'.format(s,d,l)
2189  plt.savefig(fn)
2190  myshell('gv {}&'.format(fn))
2191  #
2192  fn='qHl-{}-{}.eps'.format(s,d,l)
2193  plt.savefig(fn)
2194  myshell('gv {}&'.format(fn))
2195  ###############
2196  ###############
2197  #for all
2198  ###############
2199  #final used 20iconip
2200  #final used 20iconip
2201  #final used 20iconip
2202  export S=mmt D=ichi L=8  #for figures in 18aihc, 20iconip
2203  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)|
2204  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)|
2205  export FD=s ns=100 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)|
2206  export FD=S ns=100 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)| compare
2207  export FD=S ns=90 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)| compare
2208  export FD=S ns=100 ls=10 #ls[0]=1 for log after sum     log|sum_m 1/(1-Pm exp(-jw n)|
2209  export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu S=fhs:fms:mkk:mko:nmt:mnh:mym L=1:2:3:4:5:6:7:8:
9:10
2210  python M2s.py -dr $dr -R 1 -ow 1 -DISP 10 -dbgi 1 -ns $ns -ls $ls -FD $FD
2211  c
2212  #python M2s.py -dr $dr -R 1 -ow 1 -DISP 10 -dbgi 1 -ns $ns -ls 00 -FD $FD
2213  #python M2s.py -dr $dr -R 1 -ow 1 -DISP 10 -dbgi 1 -ns $ns -ls 00 -FD $FD
2214  #python M2s.py -dr $dr -R 0.8 -ow 1 -DISP 10 -dbgi 1 -ns $ns -ls 00 -FD $FD
2215  #(SB2) 学習と話者識別
2216  ###############
2217  ###############
2218  #make all-clean:make
2219  cmd="python oob4speakerdigit+RX_20191113.py -sp -fhs:fms:mkk:mko:nmt:mnh:mym -tx zero:ichi:ni:san:si:
go:roku:nana:hachi:kyu -L 1:2:3:4:5:6:7:8:9:10 -dr ../../l2voicedata_ueki_all_k8 -R 1 -RX 0 -mbas 2:100:1:6:
1 -s -1 -N 40 -sX -1 -FD $FD -ns $ns -ls $ls -mel 0 -nlz norm";rm -f nohup.out;nohup ${cmd}&
2220  # (2-2)実行状況確認 grep "time\|start" nohup.out
2221  # (2-3)最終結果確認 tail -15 nohup.out
2222  ##
2223  ##result with new M2s.py below
2224  #TP0.777 TN0.980 FP0.020 FN0.223 ER0.049 RC0.777 PR0.866 rP1F15G3x0.5N40b100a1.6R11x0 2148
.844s(0:35:48.844)without activepoles(-rap 1)
2225  #TP0.784 TN0.981 FP0.019 FN0.216 ER0.047 RC0.784 PR0.874 rP1F14G3x0.5N40b100a1.6R11x0 2738
.650s(0:45:38.649)
2226  #TP0.797 TN0.981 FP0.019 FN0.203 ER0.045 RC0.797 PR0.874 FDSns901s10N40b100a1.6R11x0 295
1.242s(0:45:31.241)
2227  #TP0.695 TN0.974 FP0.026 FN0.305 ER0.066 RC0.695 PR0.816 FDSns901s10N40b100a1.6R11x0 305
7.551s(0:49:17.551) **best
2228  #TP0.777 TN0.978 FP0.022 FN0.223 ER0.051 RC0.777 PR0.856 FDSns100l1s10N40b100a1.6R11x0 32
24.820s(0:53:44.819)
2229  #TP0.678 TN0.970 FP0.030 FN0.322 ER0.072 RC0.678 PR0.791 FDSns801s10N40b100a1.6R11x0 273
6.581s(0:53:56.581)
2230
2231  #executing
2232  #export FD=s ns=100 ls=10 #ls[0]=1 for log after sum      log|sum_m 1/(1-Pm exp(-jw n)| compare
2233  ##result with old M2s.py with bag below
2234  #TP0.759 TN0.983 FP0.017 FN0.241 ER0.049 RC0.759 PR0.882 F0.816 k100 FDSns100l1s10N40b100a1.6R11x0 24
54.381s(0:40:54.381) without real axis,weight1 ***
2235  #TP0.758 TN0.982 FP0.018 FN0.242 ER0.050 RC0.758 PR0.877 F0.813 k110 FDSns110l1s10N40b100a1.6R11x0 27
45.612s(0:45:45.611)
2236  #TP0.755 TN0.984 FP0.016 FN0.245 ER0.049 RC0.755 PR0.886 F0.815 k90 FDSns901s10N40b100a1.6R11x0 2186
.532s(0:36:26.532)
2237  #TP0.670 TN0.971 FP0.029 FN0.330 ER0.072 RC0.670 PR0.792 F0.726 k80 SR801l01N40b100a1.6R11x0 1839.973
```

```
s(0:30:39..972) Ubuntu12.04mesaho 20200523
2246
2247  #TP0.751 TN0.981 FP0.019 FN0.249 ER0.052 PR0.866 RC0.751 PR0.804 k100 FDSRns1001s10N40b100a1.6R11x0  2
443.930s(0:40:43.930) with real axis
2248  #TP0.552 TN0.953 FP0.047 FN0.448 ER0.104 PR0.603 RC0.552 PR0.664 k100 FDsns1001s10N40b100a1.6R11x0 24
34.109s(0:40:34.108) weight=c log q^[H,a]
2249  #TP0.477 TN0.958 FP0.042 FN0.523 ER0.111 RC0.477 PR0.656 k100 FDsns1001s00N40b100a1.6R11x0 24
03.377s(0:40:03.377) nolog
2250
2251  #TP0.754 TN0.980 FP0.020 FN0.246 ER0.052 PR0.865 RC0.754 PR0.806 k80  SR80110N40b100a1.6R11x0 8040.056
s(2:14:00.055) Ubuntu14.04
2252  #TP0.755 TN0.985 FP0.015 FN0.245 ER0.048 PR0.892 RC0.755 PR0.818 k100 SR100110N40b100a1.6R11x0 11006.
777s(3:03:26.777) ***
2253  #TP0.755 TN0.981 FP0.019 FN0.245 ER0.051 RC0.755 PR0.868 k110 SR110110N40b100a1.6R11x0 12610.
4670s(3:30:10.470)
2254
2255  #TP0.670 TN0.971 FP0.029 FN0.330 ER0.072 RC0.670 PR0.792 k80  SR80101N40b100a1.6R11x0 1839.973
2256  #TP0.679 TN0.958 FP0.042 FN0.523 ER0.074 RC0.666 PR0.783 k80  S80101N40b100a1.6R11x0 1843.986s
(0:30:43..986)
2257  #TP0.739 TN0.983 FP0.017 FN0.261 ER0.052 RC0.739 PR0.881 k80  S80101N40b100a1.6R11x0 1918.639s
(0:31:58.638) ***
2258  #TP0.755 TN0.981 FP0.019 FN0.245 ER0.051 RC0.755 PR0.871 k80  S80111N40b100a1.6R11x0 1922.859s
(0:32:02.859) *****
2259
2260  #elapsed time:2784.449s(0:46:24.448)@2020-02-12 14:11:47.384590 for m6:mym #with 20log10
2261  #TP0.682 TN0.973 FP0.027 FN0.318 ER0.069 RC0.682 PR0.807 k100 S90101N40b100a1.6R11x0 10451.431s
(2:54:11.431) !!!spectrum envelope with pole weight=1
2262  #TP0.688 TN0.968 FP0.032 FN0.312 ER0.072 RC0.688 PR0.784 k90  S90101N40b100a1.6R11x0 8867.387s
(2:27:47.387)
2263  #TP0.679 TN0.970 FP0.030 FN0.321 ER0.072 RC0.679 PR0.790 k82  S82101N40b100a1.6R11x0 7872.956s
(2:11:12.956)
2264  #TP0.695 TN0.970 FP0.030 FN0.305 ER0.069 RC0.695 PR0.795 k81  S81101N40b100a1.6R11x0 7795.418s
(2:09:55.417)
2265  #TP0.703 TN0.972 FP0.028 FN0.297 ER0.067 RC0.703 PR0.806 k80  S80101N40b100a1.6R1  7634.533s
(2:07:14.532) !!!spectrum envelope with pole weight=1  **********
2266  #TP0.686 TN0.970 FP0.030 FN0.314 ER0.070 RC0.686 PR0.793 k79  S79101N40b100a1.6R11x0 7574.295s
(2:06:14.295)
2267  #TP0.683 TN0.970 FP0.030 FN0.317 ER0.071 RC0.683 PR0.790 k78  S78101N40b100a1.6R11x0 7405.566s
(2:03:25.565)
2268  #TP0.681 TN0.967 FP0.033 FN0.319 ER0.074 RC0.681 PR0.775 k70  S70101N40b100a1.6R11x0 6317.912s
(1:45:17.912)
2269
2270  #TP0.699 TN0.965 FP0.035 FN0.301 ER0.073 RC0.699 PR0.771 k70  S70101N30b100a1.6R11x0 6629.787s
(1:50:29.787)
2271
2272  #TP0.703 TN0.972 FP0.028 FN0.297 ER0.067 RC0.703 PR0.806 k70  S80101N40b100a1.6R1  7634.533s(2:
07:14.532) !!!spectrum envelope with pole weight=1  **********
2273  #TP0.689 TN0.973 FP0.027 FN0.311 ER0.067 RC0.689 PR0.812 k80  S80101N50b100a1.6R11x0 8613.893s
(2:23:33.893)
2274  #TP0.673 TN0.973 FP0.027 FN0.327 ER0.070 RC0.673 PR0.806 k80  S80101N60b100a1.6R11x0 9673.217s
(2:41:13.216)
2275  #TP0.662 TN0.966 FP0.034 FN0.338 ER0.078 RC0.662 PR0.764 k60  S60101N40b100a1.6R1  5224.909s(1:
27:04.909) !!!spectrum envelope with pole weight=1
2276
2277  #TP0.506 TN0.960 FP0.040 FN0.494 ER0.105 RC0.506 PR0.680 k100 s100101N40b100a1.6R1 10728.438s
(2:58:48.437) 101: !!!spectrum envelope with pole weight=c
2278  #TP0.165 TN0.861 FP0.139 FN0.835 ER0.239 RC0.165 PR0.165 k100 s100110N40b100a1.6R1 2784.449s(
0:46:24.448) 110:log before mean
2279  #TP0.506 TN0.960 FP0.040 FN0.494 ER0.105 RC0.506 PR0.680 k100 s100101N40b100a1.6R1 11329.005s
(3:08:49.004) 101:log after mean **minER
2280  #TP0.413 TN0.953 FP0.047 FN0.587 ER0.124 RC0.413 PR0.595 k100 s100100N40b100a1.6R1 11462.139s
(3:11:02.139) 100:
2281
2282  python PC2xPy.py -dr ../../12voicedata_ueki_all_k8 -R 0.8 -rmax 2 -ow 1 -nx 10 -nr 2 -na 25 -nG 3 -s
G 0.5 -mel 0 -DISP 0
2283  cmd="python oob4speakerdigit+RX_20191113.py -sp fhs:fms:mkk:mko:mmt:mnh:mym -tx zero:ichi:ni:san:si:
go:roku:nana:hachi:kyu 1:2:3:4:5:6:7:8:9:10 -dr ../../12voicedata_ueki_all_k8 -R 1 -RX 0 -mbas  2:100:1.6:
1 -s -1 -N 40 -sX -1 -FD pp1 -nx 10 -nr=2 -na=23 -nG 3 -sG 0.5 -mel 0 -nlz norm -lx 0"
2284  rm -f nohup.out;
2285  nohup ${cmd}&
2286  #TP0.835 TN0.985 FP0.015 FN0.165 ER0.036 RC0.835 PR0.905 k50 pP1F2x25G3x0.5m0N40b100a1.6R11x0
3982.961s(1:06:22.960) Ubuntu14.04  ****
2287  #TP0.769 TN0.984 FP0.016 FN0.231 ER0.047 RC0.769 PR0.889 k50 pP1F2x25G3x0.5m0N40b100a1.6R11x1
3949.433s(1:05:49.432)
2288  #TP0.493 TN0.958 FP0.042 FN0.507 ER0.116 RC0.493 PR0.724 k50 pPcF3x2x25G3x0.5m0N40b100a1.6R0.81
x0 3556.669s(0:59:16.668)
2289  #TP0.497 TN0.958 FP0.042 FN0.503 ER0.119 RC0.497 PR0.702 k50 pP1F2x25G3x0.5m0N40b100a1.6R0.81
x0 6220.496s(1:43:40.496)
2290  #TP0.811 TN0.981 FP0.019 FN0.189 ER0.043 RC0.811 PR0.878 k46 pP1F2x23G3x0.5m0N40b100a1.6R1 41
63.672s(1:09:23.671) lx=0 Ubuntu14.04
2291  #TP0.746 TN0.983 FP0.017 FN0.254 ER0.051 RC0.746 PR0.880 k46 pP1F2x23G3x0.5m0N40b100a1.6R1 40
```

```
94.919s(1:08:14.919) lx=1 np.log1p(x) pP1
2292  #TP0.673 TN0.977 FP0.023 FN0.327 ER0.067 RC0.673 PR0.827 F0.742 k46 pPcF2x23G3x0.5m0N40b100a1.6R1 41
02.741s(1:08:22.740) lx=1 np.log1p(x) pPc
2293  #TP0.590 TN0.970 FP0.030 FN0.410 ER0.084 RC0.590 PR0.767 F0.667 k46 pPcF2x23G3x0.5m0N40b100a1.6R1 40
85.206s(1:08:05.206) lx=1 np.log10(0.01+x) pPc
2294
2295  #TP0.474 TN0.961 FP0.039 FN0.526 ER0.120 RC0.474 PR0.709 F0.568 k50 pPcF2x25G3x0.5m0N40b100a1.6R0.8
3873.845s(1:04:33.844) lx=0
2296  #TP0.520 TN0.968 FP0.032 FN0.480 ER0.106 RC0.520 PR0.766 F0.619 k50 pP1F2x25G3x0.5m0N40b100a1.6R0.8
3931.494s(1:05:31.494) lx=0
2297
2298  #TP0.816 TN0.984 FP0.016 FN0.184 ER0.040 RC0.816 PR0.896 F0.854 k50 pP1F2x25G3x0.5m0N40b100a1.6R1 12
78.299s(0:21:18.298) lx=0 Ubuntu12.04 **************
2299  #TP0.804 TN0.984 FP0.016 FN0.196 ER0.042 RC0.804 PR0.892 F0.846 k46 pP1F2x23G3x0.5m0N40b100a1.6R1 13
96.525s(0:23:16.524) lx=0 Ubuntu12.04
2300  #TP0.768 TN0.982 FP0.018 FN0.232 ER0.049 RC0.768 PR0.874 F0.818 k36 pP1F2x18G3x0.5m0N40b100a1.6R1 12
24.421s(0:20:24.420) lx=0 Ubuntu12.04
2301  #TP0.728 TN0.984 FP0.016 FN0.272 ER0.053 RC0.728 PR0.883 F0.798 k50 pPcF2x25G3x0.5m0N40b100a1.6R1 12
71.199s(0:21:11.199) lx=1 np.log1p(x) pPc Ubuntu12.04
2302  #TP0.675 TN0.976 FP0.024 FN0.325 ER0.067 RC0.675 PR0.825 F0.742 k50 pPcF2x25G5x0.5m0N40b100a1.6R1 14
20.427s(0:23:40.427) lx=1 np.log1p(x) pPc Ubuntu12.04
2303
2304  ###############################################################
2305  ###############################################################
2306  #20191205 <- 20191118 #20180606©0 #再試行+修正
2307  #20191205 <- 20191118 #20180606©0 再試行+修正
2308  #(0) 前処理(データ正規化) (以前の処理と同じ)
2309  ####
2310  #at can2m~/can2c
2311  #ln -s /media/sf_D_DRIVE/data/12voicedata ~/sotu/2012/12voicedata_ueki #shigeta only
2312  #ln -s /media/sf_C_DRIVE/cdata/kurolab/data/12voicedata ~/sotu/2012/12voicedata_ueki #kurogi only
2313  ####
2314  #(0.1)リンク作成
2315  ####
2316  #d0=~/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/
2317  #d0=~/sotu/2012/12voicedata_ueki/
2318  #dl=../12voicedata_ueki_all; mkdir -p $dl
2319  #for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
2320  #  ln -s ${d0}/${d}/* ${dl}/
2321  #  done
2322  ####
2323  #(0.2)パワー正規化
2324  ####
2325  #dn=${dl}_n; mkdir -p $dn #save normalized speech signal
2326  #log=$dn/normalize.log
2327  #echo "ymin=$ymin" > $log
2328  #ymin=0
2329  #for s in fhs fms mkk mko mmt mnh mym; do
2330  #  for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
2331  #    for l in 1 2 3 4 5 6 7 8 9 10; do
2332  #      cmd="python speechnormalize.py -yin $ymin ${dl}/${s}-${d}${l}.dat -yout ${dn}/${s}-${d}${l}.dat -ymi
n $ymin"
2333  #      echo $cmd; $cmd >> $log
2334  #    done
2335  #  done
2336  #done
2337  #err with
2338  #python speechnormalize.py -yin ../12voicedata_ueki_all/fhs-hachi5.dat -yout ../12voicedata_ueki_all
_n/fhs-hachi5.dat -ymin 0
2339  #python speechnormalize.py -yin ../12voicedata_ueki_all/mmt-san2.dat -yout ../12voicedata_ueki_all_n
/mmt-san2.dat -ymin 0
2340
2341  #############################################################
2342  #(1) 混合音声作成と重み付き極の作成(新しい処理)
2343  ############################################################
2344  #概要: 時間がかかるのでます動作チェックする。
2345  #      下のオプション -dbg 1 で「1数字」動作後デバッグモード に入る。
2346  #      動作のチェック(print 変数名)、次の数字の処理(cont) 等のデバッグを行う。
2347  #      動作効率のため、まず、
2348  #      #研究効率のため、まず、
2349  #      (1-0),(1-1),(1-2-1),(1-3-1),(1-4-1)の順に動作チェックを一通り行う (並列では行わない)
2350  #      次に
2351  #      (1-0),(1-2),(1-2-2),(1-3-2),(1-4-2)の順に全処理を行う (並列では行わない)
2352  #      上から行うとよい。
2353  #      #結果は全すべて dr=../../12voicedata_ueki_all_k8 の下にできる
2354  #(1-0) 環境変数設定
2355  #############################################################
2356  #dl=../../12voicedata_ueki_all;
2357  #dr=${dl}_k8; #mkdir -p $dr  #
2358  #df=${dl}_f
2359  #R=0.8 #R=1:0.8:0.6:0.4:0.2
2360  R=0.8 #R=1:0.8:0.6:0.4:0.2
```

```
2361 ###############################
2362 ###############################
2363 #(1-1) 混合音声作成＋学習＋連想行列Mの保存
2364 ###############################
2365 #(1-1-1) 混合音声作成＋連想行列Mの保存（動作チェック）。結果は $dr/*-M.dat
2366 ###############################
2367 python mkM.py -dr $dr -R $R -DISP 10 -ow 11 -dbgi 1
2368 #check 2021.0208
2369 export dl=../../l2voicedata_ueki_all;
2370 export dr=${dl}_k8; export df=${dl}_f R=1
2371 export S=nmmt L=8 D=ichi
2372 python mkM.py -dr $dr -R $R -DISP 01 -ow 01 -dbgi 1 -S $S -L $L -D $D -k $k
2373 ###############################
2374 #(1-2) 混合音声作成＋連想行列Mの保存（全処理）
2375 ###############################
2376 rm -f nohup.out;nohup python mkM.py -dr $dr -R $R -DISP 0 -ow 1 &
2377 #or nohup ...>/dev/null &      #rows.sh
2378 #or nohup ...>/dev/log 2>&1 </dev/null &
2379 #処理状況の確認
2380 jobs
2381 tail nohup.out
2382 wc $dr/*R${R}*-M.dat        #ファイルのsize 確認
2383 ls -l $dr/*R${R}*-M.dat |wc  #M.datファイルの個数確認 全部揃えば 698=700-2個
2384 ###############################
2385 #(1-2) 連想行列Mから極と係数を計算
2386 ###############################
2387 #(1-2) 連想行列Mから極と係数を計算
2388 # Mを部分分数 C_i/(1-P_i z^(-1)) に展開。以下、簡単のため
2389 ###############################
2390 # Mを部分分数 C_i/(1-P_i z^(-1)) に展開。以下、簡単のため
2391 # 極数 : P_i を  P = Px + j Py = exp(a+jw)  , i exp(jw)
2392 # 係数 : C_i を  C = Cx + j Cy = c exp(jb)
2393 # と表す. M2PC.py は、*-PC.datというファイルを作り、各行に Px Py Cx Cy を保存.
2394 #結果は $dr/*-PC.dat
2395 ###############################
2396 #(1-2-1) 連想行列Mから極と係数を計算（動作チェック）。結果は $dr/*-PC.dat
2397 ###############################
2398 python M2PC.py -dr $dr -R $R -ow 1 -DISP 10 -dbgi 1
2399 ###############################
2400 export S=nmmt L=8 D=ichi #check 20210208
2401 python M2PC.py -dr $dr -R $R -ow 1 -DISP 10 -dbgi 1 -S $S -L $L -D $D -k $k
2402 ###############################
2403 ###############################
2404 #(1-2-2) 連想行列Mから極と係数を計算（全処理）
2405 ###############################
2406 rm -f nohup.out;nohup python M2PC.py -dr $dr -R $R -ow 1 -DISP 0 &
2407 #処理状況の確認
2408 jobs
2409 tail nohup.out
2410 grep created nohup.out | wc #ファイルの個数確認 全部揃えば 698=700-2個
2411 ###############################
2412 plot "tmp.dat" using 0:1 w l, "" using 0:2 w l, "" using 0:3 w l
2413 ###############################
2414 #(1-3) 極と係数(Px,Py)を CでCで重み付けした特徴ベクトルを作成
2415 ###############################
2416 #(1-3-0) (Px,Py,Cx,Xy)から極と係数(Px,Py)をCでCで重み付けした特徴ベクトルを作り、
2417 ###############################
2418 # Y_i = Y = C /(1-P z^(-1)) = c exp(jb)/(1- exp(a+jw)z^(-1)) = c exp(a+jw)z^(-1)) = y(t) (t=0, 1,2,...)
2419 # Y_i の逆Z変換を IZ(Y)=y(t)とする。
2420 #(I) w = 0 のとき、b=0に成り、IZ(Y)=IZ(c /(1- exp(a)z^(-1))) = c exp(a)z^(-1)) = y(t) (t=0, 1,2,...)が得られるの
2421 #(II) w !=0 のとき、Y と Y の共役 Y^*= C^* /(1-P^* z^(-1)) = c exp(-jb)/(1- exp(a-jw)z^(-1)) = c exp(-jb) が
2422 #      IZ(Y+Y^*)=IZ(Y)          + IZ(Y^*)
2423 #                =c exp((a+jw)t+b) + c exp((a-jw)t-b)
2424 #                =2 c exp(at) cos(wt+b)
2425 #実軸上の点に対応する(I)は用いず、(II)のデータで特徴ベクトル作成.
2426 #複素平面上の極の直交座標表示を(Px,Py)、極座標表示を(r,w)とする。
2427 #(i) 直交座標(Px,Py)空間で離散化し、極を(r,w)を
2428 #および c= sqrt(Cx^2+Cy^2)で重み付けした後、$dr/*-rPc.dat に保存し、
2429 #後者は GaussianBlurで平滑化した後、$dr/*-rP1.datおよび$dr/*-rPc.dat に画像を作成し、
2430 #ガウスフィルタで平滑化した後、$dr/*-rPcb.datで重み付けした2つの画像を上下に配置して連結し、
2431 #(以下では、上記の1、c、(Cx,Cy)での重み付けをそれぞれ、rP1、rPc、rPcb と表記する)
2432 ###############################
2433 #(ii) また、極座標(r,w)で離散化し、極を(r,w)が存在する領域を
2434 # 1、および c= sqrt(Cx^2+Cy^2)で重み付けした後、$dr/*-ppC.dat に保存.
2435 #後者は GaussianBlurで平滑化した後、$dr/*-pP1.datおよび$dr/*-pPc.dat に保存。
2436 #さらに(r,w)を Cx=c*cos(b)および Cy=c*sin(b)で重み付けした2つの画像を上下に配置して連結し、
2437 #ガウスフィルタで平滑化した後、$dr/*-ppcb.datで重み付けした2つの画像を上下に配置して連結し、
2438 #(以下では、上記の1、c、(Cx,Cy)での重み付けをそれぞれ、pP1、pPc、pPcb と表記する)
2439 ###############################
2440 ###############################
2441 #(1-3-1) (Px,Py,Cx,Xy)から極と係数(Px,Py)をcで重み付けした特徴ベクトルを作成（動作チェック）
```

```
2442 #mel(=0,1,2)はメル尺度（プログラムPC2xPy.py参照；下記の実験結果としては mel=0(メル尺度を使わない)が良
2443 ###############################
2444 #連想行列1つ毎にストップ
2445 dl=../../l2voicedata_ueki_all;
2446 dr=${dl}_k8; #mkdir -p $dr  #
2447 df=${dl}_f
2448 R=0.8 #R=1:0.8:0.6:0.4:0.2
2449 export nx=6 nr1 na=18
2450 export nx=10 nr1 na=18 #nr=1:na=18:nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2451 export nx=13 na=18 #nr=3:na=18 #nr=3:nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2452 export nx=15 nr6 na=18 #nr=5:na=18 #nr=5:nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2453 export nx=12 nr4 na=18 #nr=6:na=18 #nr=6:nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2454 export nx=8 nr4 na=18 #nr=4:na=18 #nr=4:nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2455 export nx=9 nr2 na=19 #nr=2:na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2456 export nx=9 nr2 na=20 #nr=2:na=19;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2457 export nx=9 nr2 na=21 #nr=2:na=20;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2458 export nx=9 nr2 na=22 #nr=2:na=21;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2459 #export nx=10 nr=2 na=24 #nr=2:na=22;nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)
2460 #export nx=11 #12 13 14 15 #nr=2:na=24;nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)
2461 export nx=10 nr=2 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2462 export nx=10 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2463 #
2464 export nG=1 sG=1.0 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2465 export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2466 export mel=1
2467 #1連想行列毎にストップ
2468 python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr -na -nG $nG -sG $sG -DISP 11 -dbgi
2469 -mel $mel
2470 python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx 11 -nr 2 -na 18 -nG 3 -sG 1 -DISP 10 -dbgi 1 -mel $mel
2471 #1 1
2472 #python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr -na -nG $nG -sG -DISP 11 -dbgi
2473 #(1-3-2) (Px,Py,Cx,Xy)から極(Px,Py)をCで重み付けした特徴ベクトルを作成（全処理）（実際は下の(2-0)で行
2474 うのでここではやらなくてよい）#連想行列作成時間はそれほどどからからない
2475 dl=../../l2voicedata_ueki_all;
2476 dr=${dl}_k8; #mkdir -p $dr  #
2477 df=${dl}_f
2478 R=0.8 #R=1:0.8:0.6:0.4:0.2
2479 #python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -Ksize 3 -sK 1 -rmax 2 -R $R -ow 1 -nx 11 -nr 2 -R $R
2480 nr * na
2481 export nx=10 nr=3 na=18 #nr=3:na=18 #nr=3:nx=((nr*na)*2)**(0.5);print nx
2482 export nx=12 nr=4 na=18 #nr=4:na=18 #nr=4:nx=((nr*na)*2)**(0.5);print nx
2483 export nx=13 nr=5 na=18 #nr=5:na=18 #nr=5:nx=((nr*na)*2)**(0.5);print nx
2484 export nx=15 nr=6 na=18 #nr=6:na=18 #nr=6:nx=((nr*na)*2)**(0.5);print nx
2485 export nx=8 nr=2 na=18 #nr=2:na=18 #nr=2:nx=((nr*na)*2)**(0.5);print nx
2486 export nx=9 nr=2 na=19 #nr=2:na=19;nx=((nr*na)*2)**(0.5);print nx
2487 export nx=9 nr=2 na=20 #nr=2:na=20;nx=((nr*na)*2)**(0.5);print nx
2488 export nx=9 nr=2 na=21 #nr=2:na=21;nx=((nr*na)*2)**(0.5);print nx
2489 export nx=10 nr=2 na=24 #nr=2:na=24;nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)
2490 export nx=10 nr=4 na=25 #nr=2:na=24;nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2491 export nx=10 nr=2 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2492 export nx=10 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2493 export nx=10 nr=6 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2494 export nx=10 nr=8 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2495 export nx=11 #12 13 14 15 16 17 18 19 20
2496 export nx=10 nr=2 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2497 export nx=10 nr=2 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5);nx= 10
2498 #
2499 export nG=1 sG=1 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2500 export nG=3 sG=1 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2501 export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2502 export mel=1
2503 #
2504 rm -f nohup.out;nohup python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr $nr -na $na -nG $nG -sG $sG -DISP 0 -mel $mel&
2505 #処理状況の確認
2506 tail nohup.out
2507 jobs
2508 tail nohup.out
2509 grep created nohup.out | wc  #ファイルの個数確認
2510 for F in rPc rPcb rP1 pPc pPcb pP1 ;do
2511 echo -n $F;ls -l $dr/*rR${R}*-${F}*.dat |wc;#ファイルの個数 確認
2512 done
2513 for F in rPc rPcb rP1 pPc pPcb pP1 ;do
2514 echo -n $F;wc $dr/*rR${R}*-${F}.dat  #ファイルのsize 確認
2515 done
2516 done
```

```
2517 ###########################
2518 #(1-4) (x,y,C)から極(x,y)の分布を作成（以前の極分布ベクトルq_nと同じ）（今回は、確認のみで詳しく行わ
ない）
2519 ###########################
2520 #(1-4-1) (x,y,C)から極(x,y)の分布ベクトルq_nと同じ）（動作チェック）結果は $dr/*-
q.dat
2521 ###########################
2522 python PC2q.py -dr $dr -ow 1 -nK 11 -sG 3 -nF 1001 -rmax 2 -R $R -ow 1 -DISP 10 -dbgi 1
2523 ###########################
2524 #(1-4-2) (x,y,C)から極(x,y)の分布ベクトルq_nと同じ）（動作チェック）
2525 nohup python PC2q.py -dr $dr -ow 1 -nF 1001 -rmax 2 -R $R -nG 11 -sG 3 -ow 1 -DISP 0 >nohup.out&
2526 grep created nohup.out | wc
2527
2528 ###########################
2529 ## (2)学習と話者識別
2530 ###########################
2531 #(2-1)
2532 ###########################
2533 #sudo apt-get install libopencv-dev:sudo apt-get install python-opencv: #for install cv2 for Ubuntu14.04
2.04
2534 #pip install opencv-python for Ubuntu14.04
2535 ###########################
2536 ###########################cut and paste from here (No.2-1)
2537 export dl=../../12voicedata_ueki_all;
2538 export dr$(dl}_k8: #mkdir -p $dq   #pole new
2539 export sX=-1:a=1.6;b=10:N=40:# for short time check
2540 export sX=-1:a=1.6;b=40:N=100: #??
2541 export sX=-1:a=1.6;b=40:N=400: #????
2542 export sX=-1:a=1.6;b=400:N=40: #2best 18aihc!
2543 export sX=-1:a=1.6;b=300:N=40: #?
2544 export sX=-1:a=1.6;b=100:N=30: #?
2545 export sX=-1:a=0.7;b=100:N=30: #
2546 export sX=-1:a=1.6;b=100:N=40: #
2547 export mbas=2:${b}:${a}:1
2548 #
2549 export L=1:2:3:4:5:6:7:8:9:10
2550 export D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
2551 export S=fhs:fms:mkk:mko:mmt:mnh:mym
2552 export R=0.8: RX=0 #R=1
2553 nlz=norm
2554 #
2555 ## set Feature size nx for (nx)*(nx/2)-recutangular image , and nr and na for (nr)*(na)-polar image
2556 #
2557 export nx=6 nr=1 na=18 #nr=1;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2558 export nx=10 nr=3 na=18 #nr=3;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2559 export nx=13 nr=5 na=18 #nr=5;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2560 export nx=15 nr=6 na=18 #nr=6;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2561 export nx=12 nr=4 na=18 #nr=4;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2562 export nx=2 nr=2 na=18 #nr=2;na=18;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2563 export nx=9 nr=2 na=19 #nr=2;na=19;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2564 export nx=9 nr=2 na=20 #nr=2;na=20;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2565 export nx=9 nr=2 na=21 #nr=2;na=21;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2566 export nx=10 nr=2 na=22 #nr=2;na=22;nx=((nr*na)*2)**(0.5);print int(nx+0.5)
2567 export nx=10 nr=2 na=24 #nr=2;na=24;nx=2/nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2568 export nx=10 nr=6 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2569 export nx=10 nr=6 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2570 export nx=8 na=13 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2571 export nx=11 #12 13 14 15 16 17 18 19 20
2572 export nx=10 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2573 export nx=10 nr=4 na=23 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2574 export nx=10 nr=2 na=25 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2575 export nx=10 nr=2 na=25 #nx=((nr*na)*2)**(0.5);print 'nx=',int(nx+0.5)nx= 10
2576 ##
2577 # set nG (Gaussian filter's Kernel-size) and sG (sigma)
2578 ###
2579 export nG=3 sG=1.0 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2580 export nG=3 sG=0.7 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2581 export nG=3 sG=1.0 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2582 export nG=3 sG=0.5 #nG: size of Gaussian Kernel, sG:sigma of Gaussian Kernel
2583 ##
2584 #choose rectangular or polar
2585 ###
2586 export FD=rP1 #pP1 pPc pPcb rP1 rPc rPcb
2587 export FD=pP1 #pP1 pPc pPcb rP1 rPc rPcb
2588 export FD=pPc #pP1 pPc pPcb rP1 rPc rPcb
2589 export mel=0 lx=0 #0
2590 #
2591 rm -f nohup.out;
2592 #(2-0)上記パラメータを持つxPyファイルの存在を調べ、なければ作る←(1-3-2)
2593 if [ "$(FD:0:1}" == "p" ]; then #xPy ファイルの存在確認
2594 fn=$(dr}/mym-zero9-R$(R}*-${FD}F${nr}x${na}G${nG}x${sG}m${mel}.dat
2595 else
```

```
2596 fn=$(dr}/mym-zero9-R${R}*-${FD}F${nx}G$(nG}x${sG}.dat
2597 fi
2598 if [ ! -e $fn ]; then #xPy ファイルがなければ作る(1-3-2)
2599 cmd0="python PC2xPy.py -dr $dr -R $R -rmax 2 -ow 1 -nx $nx -nr $nr -na $na -nG $nG -sG $sG -mel $mel
-DISP 0"
2600 echo "#Execute ${cmd0}"
2601 ${cmd0} > nohup.out
2602 fi
2603 #(2-1) 学習と話者識別実行 (時間がかかる)
2604 cmd="python oob4speakerdigit+RX_20191113.py -sp $S -tx $D -L $L -dr $dr -R $R -RX $RX -mbas $mbas -s
-1-N $(N} -sX ${sX} -FD ${FD} -nx $nx -nr=$nr -na=$na -nG $nG -sG $sG -mel $mel -nlz -lx $lx"
2605 echo "#Execute ${cmd}"
2606 nohup ${cmd}&
2607 ############cut and paste to here (No.2-1)
2608
2609 ###########################
2610 grep "time\|start" nohup.out
2611 #最終結果確認
2612 tail -15 nohup.out
2613 ###########################
2614 #(2-3)結果、話者識別に適した極分布 (特徴ベクトル) は何かを調査すること
2615 #    今回の課題は、話者識別結果に適するこ
2616 #    黒木の実験結果に適するこ
2617 #    [0] バギングとCANの2のユニット数N、バグ数N、パグサイズ*a は、N=40,b=100,a=1.6b よび
2618 #        N=30,b=100,a=0.7による結果を比較したが、より妥当性がある
2619 #        (nr,na,nG等のパラメータのなめらかな変動に対して、誤差率RRが小さめ)
2620 #        ER自体もパさい値になる）のはN=40,b=100,a=1.6では小さい値と考える。以下のパラメータのチューニングを行い検討する
2621 #        ほんとはこれらのチューニングも課題である
2622 #        [1] 極分布は、直交座標系 (rP1, rPc, rPcb) と極座標系 (pP1 pPc pPcb)
2623 #        の合計6種類の内、pP1が良いのではないか
2624 #        [2] 極分布 pP1を区分する次元は nr=4,na=23が良いのではないか
2625 ###########################
2626 ###########################
2627 ###without mel-scale (mel=0) with N40b100a1.6 optimize nr,na,(nx),nG,sG,
2628 ##==> Best result with nr=4 na=23    nG=3  sG=0.5 ???
2629 ###########################
2630 #R=0.8 F2x23 UBuntu12.04
2631 #TP0.530 TN0.974 FP0.026 FN0.470 ER0.100 RC0.530 PR0.803 F0.638 k46  pP1F2x23G1x1.0mON40b100a1.6R0.8
2451.081s(1:40:51.080)
2632 #TP0.443 TN0.980 FP0.020 FN0.557 ER0.109 RC0.443 PR0.817 F0.574 k92  pP1F4x23G1x1.0mON40b100a1.6R0.8
4314.420s(1:11:54.419)
2633 #TP0.521 TN0.972 FP0.028 FN0.479 ER0.103 RC0.521 PR0.786 F0.627 k92  pP1F4x23G3x0.5mON40b100a1.6R0.8
4285.148s(1:11:25.147)
2634 #TP0.520 TN0.963 FP0.037 FN0.480 ER0.111 RC0.520 PR0.736 F0.610 k92  pP1F4x23G3x1.0mON40b100a1.6R0.8
4375.198s(1:12:55.197)
2635 ###########################
2636    #R=0.8 F2x23
2637 #TP0.527 TN0.970 FP0.030 FN0.473 ER0.104 RC0.527 PR0.778 F0.629 k46  pP1F2x23G1x1.0mON40b100a1.6R0.8
3445.891s(0:57:25.890)
2638 #TP0.533 TN0.967 FP0.033 FN0.467 ER0.105 RC0.533 PR0.764 F0.628 k46  pP1F2x23G3x0.5mON40b100a1.6R0.8
3506.210s(0:58:26.209)
2639    #R=0.8  F4x23
2640 #TP0.426 TN0.976 FP0.024 FN0.574 ER0.116 RC0.426 PR0.777 F0.550 k92  pP1F4x23G1x1.0mON40b100a1.6R0.8
8370.371s(2:19:30.370)
2641 #TP0.530 TN0.972 FP0.028 FN0.470 ER0.102 RC0.530 PR0.789 F0.634 k92  pP1F4x23G3x0.5mON40b100a1.6R0.8
8463.674s(2:21:03.674)ER*PR*F*
2642 #TP0.552 TN0.962 FP0.038 FN0.448 ER0.106 RC0.552 PR0.745 F0.634 k92  pP1F4x23G3x1.0mON40b100a1.6R0.8
8496.331s(2:21:36.330)RC*
2643 ##doing
in can2m with new mel==0
2644 #TP0.460 TN0.952 FP0.048 FN0.540 ER0.130 RC0.460 PR0.655 F0.540 k92  pP1F4x23G3x0.5mON40b100a1.6R0.8
8430.108s(2:20:30.107)??20191205
2645 ###########################
2646    #R=1 F2x23
2647 #TP0.778 TN0.982 FP0.018 FN0.222 ER0.047 RC0.778 PR0.879 F0.825 k46  pP1F2x23G1x1.0mON40b100a1.6R1  40
30.252s(1:07:10.252)
2648 #TP0.811 TN0.981 FP0.019 FN0.189 ER0.043 RC0.811 PR0.878 F0.843 k46  pP1F2x23G3x0.5mON40b100a1.6R1  40
95.362s(1:08:15.362)
2649 #TP0.787 TN0.979 FP0.021 FN0.213 ER0.048 RC0.787 PR0.863 F0.823 k46  pP1F4x23G3x1.0mON40b100a1.6R1  40
90.410s(1:08:10.409)
2650    #R=1 F4x23
2651 #TP0.668 TN0.989 FP0.011 FN0.332 ER0.057 RC0.668 PR0.907 F0.769 k92  pP1F4x23G1x1.0mON40b100a1.6R1  97
98.331s(2:43:18.331)PR*
2652 #TP0.791 TN0.986 FP0.014 FN0.209 ER0.042 RC0.791 PR0.903 F0.843 k92  pP1F4x23G3x0.5mON40b100a1.6R1  99
40.809s(2:45:40.808)ER*RC*F*
2653 #TP0.798 TN0.981 FP0.019 FN0.202 ER0.045 RC0.798 PR0.876 F0.835 k92  pP1F4x23G3x1.0mON40b100a1.6R1  98
75.346s(2:44:35.346)
2654 ###########################
2655    #R=1 F2x23
2656 #TP0.523 TN0.969 FP0.031 FN0.477 ER0.105 RC0.523 PR0.774 F0.624 k92  pP1F4x23G3x0.5m1N40b100a1.6R0.8
8329.435s(2:18:49.435)xxxmel=1?
2657 #TP0.795 TN0.986 FP0.014 FN0.205 ER0.041 RC0.795 PR0.905 F0.847 k92  pP1F4x23G3x0.5m1N40b100a1.6R1  97
```

```
04.249s(2:41:44.249) m=1
2658  ###################### Examination that mel=0 (without mel-scale) is best.
2659  #TP0.476 TN0.984 FP0.016 FN0.524 RC0.476 ER0.101 PR0.858 F0.612 k92  pP1F4x23G3x0.5mON30b100a0.7R0.8
2660  3756.055s(1:02:36.054)
2661  #TP0.464 TN0.979 FP0.021 FN0.536 RC0.464 ER0.107 PR0.816 F0.592 k92  pP1F4x23G3x0.5m1N30b100a0.7R0.8
      3815.816s(1:03:35.816)
2662  #TP0.457 TN0.980 FP0.020 FN0.543 RC0.457 ER0.107 PR0.820 F0.587 k92  pP1F4x23G3x0.5m2N30b100a0.7R0.8
      3839.833s(1:03:59.833)
2663  #TP0.476 TN0.983 FP0.017 FN0.524 RC0.476 ER0.102 PR0.847 F0.609 k92  pP1F4x23G3x0.5mON30b100a0.7R0.8
2664  ER*F*?old
      3768.561s(1:02:48.560) ER*F*?old
2665  #TP0.530 TN0.972 FP0.028 FN0.470 RC0.530 ER0.102 PR0.789 F0.634 k92  pP1F4x23G1x1.0N40b100a0.6R0.8
      8471.898s(2:21:11.898)
2666  #TP0.507 TN0.968 FP0.032 FN0.493 RC0.507 ER0.109 PR0.761 F0.609 k92  pP1F4x23G1x1.0N40b100a1.6R0.8
      8525.436s(2:22:05.435)
2667  #TP0.520 TN0.968 FP0.032 FN0.480 RC0.520 ER0.107 PR0.763 F0.618 k92  pP1F4x23G1x1.0m5N40b100a1.6R0.8
      8535.444s(2:22:15.444)
2668  #TP0.532 TN0.974 FP0.026 FN0.468 RC0.532 ER0.099 PR0.807 F0.641 k92  pP1F4x23G1x1.0mON40b100a1.6R0.8
      8279.216s(2:17:59.216) ER***PR**F*??old
2669  ER***PR**F*??old
2670  #TP0.537 TN0.969 FP0.031 FN0.463 RC0.537 ER0.103 PR0.775 F0.635 k46  pP1F2x23G1x1.0mON40b100a1.6R0.8
      3447.047s(0:57:27.046) ER*RC*F*
2671  #TP0.497 TN0.964 FP0.036 FN0.503 RC0.497 ER0.114 PR0.735 F0.593 k46  pP1F2x23G1x1.0m1N40b100a1.6R0.8
      3453.604s(0:57:33.604)
2672  #TP0.510 TN0.968 FP0.032 FN0.490 RC0.510 ER0.108 PR0.764 F0.612 k46  pP1F2x23G1x1.0m2N40b100a1.6R0.8
      3460.884s(0:57:40.883)
2673  #TP0.470 TN0.984 FP0.016 FN0.530 RC0.470 ER0.102 PR0.852 F0.606 k46  pP1F2x23G1x1.0mON30b100a0.7R0.8
      1608.903s(0:26:48.903) m0*
2674  #TP0.458 TN0.982 FP0.018 FN0.542 RC0.458 ER0.105 PR0.838 F0.593 k46  pP1F2x23G1x1.0m1N30b100a0.7R0.8
      1623.034s(0:27:03.034)
2675  #TP0.430 TN0.980 FP0.020 FN0.570 RC0.430 ER0.112 PR0.809 F0.561 k46  pP1F2x23G1x1.0m2N30b100a0.7R0.8
      1625.297s(0:27:05.296)
2676  #TP0.742 TN0.987 FP0.013 FN0.258 RC0.742 ER0.048 PR0.906 F0.816 k46  pP1F2x23G1x1.0mON30b100a0.7R1  18
2677  65.180s(0:31:05.180) ***
2678  ###################### Examination that N40b100a1.6 is better than N30b100a1.6
2679  #TP0.532 TN0.966 FP0.034 FN0.468 RC0.532 ER0.106 PR0.757 F0.625 k46  pP1F2x23G1x1.0mON30b100a1.6R0.8
2680  2880.487s(0:48:00.487) N30worsethanN40
2681  #TP0.527 TN0.970 FP0.030 FN0.473 RC0.527 ER0.104 PR0.778 F0.629 k46  pP1F2x23G1x1.0mON40b100a1.6R0.8
2682  3445.891s(0:57:25.890)
2683  ######################
2684  #####result for R=1,0.8 a=0.7(fast:low precesion?)
2685  ##parameter tuning --> decide to use N30,b100,a0.7, (reject b=300 with smallest ER0.046, because it
2686  is slow)
2687  ##[1] N30,b100,a0.7, b100? R=1
2688  #TP0.748 TN0.988 FP0.012 FN0.252 RC0.748 ER0.046 PR0.914 F0.823 k46  pP1F2x23G1x1.0N30b300a0.7R1  5558
      .675s(1:32:38.675) b300*PR*RC*P*
2689  #TP0.746 TN0.988 FP0.012 FN0.254 RC0.746 ER0.046 PR0.914 F0.822 k46  pP1F2x23G1x1.0N30b200a0.7R1  3690
      .229s(1:01:30.229) b200*ER*
2690  #TP0.742 TN0.987 FP0.013 FN0.258 RC0.742 ER0.048 PR0.906 F0.816 k46  pP1F2x23G1x1.0N30b100a0.7R1  1865
      .180s(0:31:05.180) ***
2691  #TP0.736 TN0.987 FP0.013 FN0.264 RC0.736 ER0.049 PR0.903 F0.811 k46  pP1F2x23G1x1.0N40b200a0.7R1  4431
      .979s(1:13:51.978)
2692  #TP0.741 TN0.986 FP0.014 FN0.259 RC0.741 ER0.049 PR0.901 F0.813 k46  pP1F2x23G1x1.0N35b100a0.7R1  2048
      .546s(0:34:08.546)
2693  #TP0.738 TN0.986 FP0.014 FN0.262 RC0.738 ER0.050 PR0.896 F0.809 k46  pP1F2x23G1x1.0N25b100a0.7R1  1672
      .582s(0:27:52.582)
2694  #TP0.729 TN0.987 FP0.013 FN0.271 RC0.729 ER0.050 PR0.902 F0.807 k46  pP1F2x23G1x1.0N20b100a0.7R1  1500
      .343s(0:25:00.343)
2695  #TP0.741 TN0.985 FP0.015 FN0.259 RC0.741 ER0.050 PR0.893 F0.810 k46  pP1F2x23G1x1.0N40b100a0.7R1  2210
      .672s(0:36:50.671) **
2696  #TP0.725 TN0.986 FP0.014 FN0.275 RC0.725 ER0.052 PR0.894 F0.801 k46  pP1F2x23G1x1.0N50b100a0.7R1  258
      6.258s(0:43:06.257) N=50worse
2697  ######################
2698  ##[2] F4x23 R1
2699  #TP0.683 TN0.988 FP0.012 FN0.317 RC0.683 ER0.055 PR0.907 F0.779 k92  pP1F4x23G1x1.0N40b100a1.6R1  9929
      .533s(2:45:29.533)
2700  #TP0.607 TN0.992 FP0.008 FN0.393 RC0.607 ER0.063 PR0.928 F0.734 k92  pP1F4x23G3x0.5N30b100a0.7R1  4419
      .859s(1:13:39.859) PR*
2701  #TP0.752 TN0.988 FP0.012 FN0.248 RC0.752 ER0.045 PR0.915 F0.825 k92  pP1F4x23G3x0.5N40b100a0.7R1  4491
      .461s(1:14:51.460) ER*
2702  #TP0.766 TN0.986 FP0.014 FN0.234 RC0.766 ER0.045 PR0.904 F0.829 k92  pP1F4x23G1x1.0N30b100a0.7R1  4404
      .924s(1:13:24.924) ER*RC*F*
2703  ######################
2704  ##[3] F4x23 R0.8
2705  #TP0.368 TN0.989 FP0.011 FN0.632 RC0.368 ER0.114 PR0.871 F0.518 k92  pP1F4x23G1x1.0N30b100a0.7R0.8  38
      62.550s(1:04:22.549) PR*
2706  #TP0.476 TN0.983 FP0.017 FN0.524 RC0.476 ER0.102 PR0.847 F0.609 k92  pP1F4x23G3x0.5N30b100a0.7R0.8  37
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68.561s(1:02:48.560) ER*F*
2707  #TP0.497 TN0.972 FP0.028 FN0.503 RC0.497 ER0.107 PR0.783 F0.608 k92  pP1F4x23G3x1.0N30b100a0.7R0.8  38
44.216s(1:04:04.216) RC*
2708
2709  #TP0.474 TN0.982 FP0.018 FN0.526 RC0.474 ER0.102 PR0.842 F0.607 k92  pP1F4x23G3x0.5N30b200a0.7R0.8  75
23.951s(2:05:23.951)?
2710  #TP0.532 TN0.974 FP0.026 FN0.468 RC0.532 ER0.099 PR0.807 F0.641 k92  pP1F4x23G3x0.5N40b100a1.6R0.8  82
79.216s(2:17:59.216) ER***PR**F***
2711
2712  ######
2713  #TP0.607 TN0.993 FP0.007 FN0.393 RC0.607 ER0.062 PR0.936 F0.737 k92  pP1F4x23G1x1.0N40b200a0.7R1  1028
1.267s(2:51:21.267) ERb200=ERb100
2714  #TP0.615 TN0.992 FP0.008 FN0.385 RC0.615 ER0.062 PR0.931 F0.740 k92  pP1F4x23G1x1.0N50b100a0.7R1  5815
.295s(1:36:55.294)
2715  #
2716  #TP0.470 TN0.981 FP0.019 FN0.530 RC0.470 ER0.105 PR0.828 F0.600 k92  pP1F2x23G3x0.5N40b100a1.6R0.8  4336.124s(
1:12:16.123) a=0.7 R=0.8
2717  #TP0.330 TN0.990 FP0.010 FN0.670 RC0.330 ER0.120 PR0.868 F0.478 k92  pP1F4x23G1x1.0N50b100a1.6R0.8  4880.124s(
1:21:20.124) N=50bad
2718  #TP0.460 TN0.983 FP0.017 FN0.540 RC0.460 ER0.104 PR0.843 F0.595 k92  pP1F4x23G3x0.5N50b100a1.6R0.8  4883.923s(
1:21:23.923) a=0.7 R=0.8
2719  #[0]
2720
2721  ######result for R=1 a=1.6 slow
2722  #TP0.764 TN0.982 FP0.018 FN0.236 RC0.764 ER0.049 PR0.816 F0.816 k46  pP1F2x23G1x1N40b100  3992.138s(
1:06:32.137) a=1.6 R=1
2723  #TP0.787 TN0.985 FP0.015 FN0.213 RC0.787 ER0.044 PR0.896 F0.838 k92  pP1F2x23G3x0.5N40b100  9682.246s(
2:41:22.245) a=1.6 R=1
2724
2725  #[0]
2726  #Result for R0.8   a=1.6slow
2727  #TP0.537 TN0.969 FP0.031 FN0.463 RC0.537 ER0.103 PR0.775 F0.635 k46  pP1F2x23G1x1N40b100  3447.047s(0:
57:27.046) ER*RC*P*
2728  #TP0.523 TN0.970 FP0.030 FN0.477 RC0.523 ER0.105 PR0.777 F0.625 k46  pP1F2x23G3x0.2N40b100  3497.300s(
0:58:17.300)
2729  #TP0.516 TN0.975 FP0.025 FN0.484 RC0.516 ER0.101 PR0.807 F0.629 k46  pP1F2x23G3x0.3N40b100  3452.820s(
0:57:32.820)ER**
2730  #TP0.516 TN0.969 FP0.031 FN0.484 RC0.516 ER0.106 PR0.769 F0.617 k46  pP1F2x23G3x0.4N40b100  3500.132s(
0:58:20.132)
2731  #TP0.537 TN0.967 FP0.033 FN0.463 RC0.537 ER0.105 PR0.764 F0.631 k46  pP1F2x23G3x0.5N40b100  3518.382s(
0:58:38.382)
2732  #TP0.509 TN0.962 FP0.038 FN0.491 RC0.509 ER0.114 PR0.726 F0.598 k46  pP1F2x23G3x0.7N40b100  3515.321s(
0:58:35.320)
2733
2734  #TP0.420 TN0.978 FP0.022 FN0.580 RC0.420 ER0.115 PR0.794 F0.549 k92  pP1F4x23G1x1.0N40b100  8392.447s(
2:19:52.447)
2735  #TP0.437 TN0.978 FP0.022 FN0.563 RC0.437 ER0.112 PR0.798 F0.565 k92  pP1F4x23G3x0.3N40b100  8429.563s(
2:20:29.563)
2736  #TP0.532 TN0.974 FP0.026 FN0.468 RC0.532 ER0.099 PR0.807 F0.641 k92  ER***PR**P***
2:17:59.216) ER***PR**P***
2737  #TP0.517 TN0.966 FP0.034 FN0.483 RC0.517 ER0.109 PR0.754 F0.613 k92  pP1F4x23G3x0.7N40b100  8418.224s(
2:20:18.223)
2738  #TP0.537 TN0.964 FP0.036 FN0.463 RC0.537 ER0.107 PR0.747 F0.625 k92  pP1F4x23G1x1.0N40b100  8516.602s(
2:21:56.602) RC*
2739
2740  #TP0.397 TN0.983 FP0.017 FN0.603 RC0.397 ER0.115 PR0.824 F0.536 k138  pP1F6x23G1x1.0N40b100  14622.620
s(4:03:42.619)
2741  #TP0.473 TN0.975 FP0.025 FN0.527 RC0.473 ER0.108 PR0.793 F0.592 k138  pP1F6x23G3x0.5N40b100  15023.247
s(4:10:23.247)
2742  #TP0.519 TN0.971 FP0.029 FN0.481 RC0.519 ER0.104 PR0.784 F0.624 k138  pP1F6x23G3x0.7N40b100  14785.650
s(4:06:25.649)
2743  #TP0.526 TN0.971 FP0.029 FN0.474 RC0.526 ER0.103 PR0.786 F0.630 k138  pP1F6x23G3x0.8N40b100  14774.535
s(4:06:14.534)
2744  #TP0.526 TN0.970 FP0.030 FN0.474 RC0.526 ER0.104 PR0.781 F0.628 k138  pP1F6x23G3x0.9N40b100  15313.228
s(4:15:13.227)
2745  #TP0.513 TN0.967 FP0.033 FN0.487 RC0.513 ER0.109 PR0.757 F0.611 k138  pP1F6x23G3x1.0N40b100  15263.163
s(4:14:23.162)
2746
2747  #TP0.483 TN0.967 FP0.033 FN0.517 RC0.483 ER0.113 PR0.747 F0.587 k184  pP1F8x23G3x1.0N40b100  23445.095
s(6:30:45.094)
2748  #TP0.487 TN0.971 FP0.029 FN0.513 RC0.487 ER0.110 PR0.769 F0.596 k184  pP1F8x23G3x0.9N40b100  23566.317
s(6:32:46.316)
2749
2750  #TP0.468 TN0.988 FP0.012 FN0.532 RC0.468 ER0.137 PR0.617 F0.533 k60  rP1F10G3x0.5N40b100  4634.812s(1:
17:14.811)
2751
2752  #optimize nX for rP1
2753
2754  #TP0.388 TN0.937 FP0.063 FN0.612 RC0.388 ER0.154 PR0.553 F0.456 k32  rP1F8G1x1N40b100  2278.208s(0:37:
58.207)
2755  #TP0.394 TN0.938 FP0.062 FN0.606 RC0.394 ER0.153 PR0.558 F0.462 k36  rP1F9G1x1N40b100  2594.752s(0:43:
14.751)
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2756  #TP0.437 TN0.947 FP0.053 FN0.563 ER0.138 PR0.621 RC0.437 F0.513 k50  rP1F10G1x1N40b100  3701.592s(1:01
:41.592)
2757  #TP0.431 TN0.940 FP0.060 FN0.569 ER0.144 PR0.591 RC0.431 F0.499 k55  rP1F11G1x1N40b100  4164.025s(1:09
:24.025)
2758  #TP0.404 TN0.952 FP0.048 FN0.596 ER0.139 PR0.629 RC0.404 F0.492 k72  rP1F12G1x1N40b100  5744.459s(1:35
:44.458)
2759  #TP0.405 TN0.953 FP0.047 FN0.595 ER0.138 PR0.635 RC0.405 F0.495 k78  rP1F13G1x1N40b100  6489.820s(1:48
:09.819)
2760  #TP0.448 TN0.970 FP0.030 FN0.552 ER0.117 PR0.752 RC0.448 F0.562 k98  rP1F14G1x1N40b100  9087.862s(2:31
:27.862)  ER*F* for rP1
2761  #TP0.427 TN0.968 FP0.032 FN0.573 ER0.122 PR0.729 RC0.427 F0.538 k105 rP1F15G1x1N40b100  9682.354s(2:4
1:22.354)
2762  #TP0.423 TN0.972 FP0.028 FN0.577 ER0.119 PR0.754 RC0.423 F0.542 k128 rP1F16G1x1N40b100  13337.664s(3:
42:17.664)
2763  #TP0.418 TN0.983 FP0.017 FN0.582 ER0.111 PR0.834 RC0.418 F0.557 k200 rP1F20G1x1N40b100  26475.142s(7:
21:15.142) ER*
2764  #??
2765  #Optimize na for rP1
2766  #Optimize na for rP1
2767  #TP0.521 TN0.962 FP0.038 FN0.479 ER0.111 PR0.734 RC0.521 F0.610 k36  pP1F2x18G1x1N40b100  2570.162s(0:
42:50.162)
2768  #TP0.533 TN0.970 FP0.030 FN0.467 ER0.103 PR0.780 RC0.533 F0.633 k38  pP1F2x19G1x1N40b100  2807.666s(0:
46:47.666) ER*PR*
2769  #TP0.519 TN0.966 FP0.034 FN0.481 ER0.108 PR0.754 RC0.519 F0.615 k40  pP1F2x20G1x1N40b100  2956.958s(0:
49:16.958)
2770  #TP0.514 TN0.970 FP0.030 FN0.486 ER0.106 PR0.774 RC0.514 F0.618 k42  pP1F2x21G1x1N40b100  3113.306s(0:
51:53.305)
2771  #TP0.517 TN0.967 FP0.033 FN0.483 ER0.108 PR0.757 RC0.517 F0.614 k44  pP1F2x22G1x1N40b100  3289.598s(0:
54:49.598)
2772  #TP0.537 TN0.969 FP0.031 FN0.463 ER0.103 PR0.775 RC0.537 F0.635 k46  pP1F2x23G1x1N40b100  3447.047s(0:
57:27.046) ER*RC*F*
2773  #TP0.526 TN0.963 FP0.037 FN0.474 ER0.110 PR0.738 RC0.526 F0.614 k48  pP1F2x24G1x1N40b100  3626.286s(1:
00:26.286)
2774  #TP0.514 TN0.969 FP0.031 FN0.486 ER0.106 PR0.770 RC0.514 F0.617 k50  pP1F2x25G1x1N40b100  3826.842s(1:
03:46.841)
2775
2776  #TP0.533 TN0.970 FP0.030 FN0.467 ER0.103 PR0.780 RC0.533 F0.633 k38  pP1F2x19G1x1N40b100  2807.666s(0:
46:47.666) *****
2777  #TP0.487 TN0.958 FP0.042 FN0.513 ER0.120 PR0.701 RC0.487 F0.575 k38  pPcbF2x19G1x1N40b100  2757.566s(0:
45:57.565)
2778  #TP0.506 TN0.970 FP0.030 FN0.494 ER0.107 PR0.774 RC0.506 F0.612 k76  pPcbF2x19x19G1x1N40b100  6500.894s(1
:48:20.893)
2779  #TP0.537 TN0.972 FP0.028 FN0.463 ER0.103 PR0.785 RC0.537 F0.635 k92  pPcbF2x23G1x1N40b100  8396.233s(2
:19:56.232)
2780  #
2781  #TP0.537 TN0.969 FP0.031 FN0.463 ER0.103 PR0.775 RC0.537 F0.635 k46  pP1F2x23G1x1N40b100  3447.047s(0:
57:27.046) ****
2782  #TP0.501 TN0.972 FP0.028 FN0.499 ER0.106 PR0.785 RC0.501 F0.612 k92  pPcbF2x23G1x1N40b100  8396.233s(2
:19:56.232)
2783
2784  #
2785  #TP0.437 TN0.947 FP0.053 FN0.563 ER0.138 PR0.621 RC0.437 F0.513 k50  rP1F10G1x1N40b100  3701.592s(1:01
:41.592)
2786  #
2787  #TP0.431 TN0.950 FP0.050 FN0.569 ER0.137 PR0.632 RC0.431 F0.513 k100 rPcbF10G1x1N40b100  9191.813s(2:
33:11.812)
2788
2789  #TP0.533 TN0.970 FP0.030 FN0.467 ER0.103 PR0.780 RC0.533 F0.633 k38  pP1F2x19G1x1N40b100  2807.666s(0:
46:47.666) ****
2790
2791  #TP0.438 TN0.973 FP0.027 FN0.562 ER0.116 PR0.767 RC0.438 F0.558 k72  pP1F4x18G1x1N40b100  5981.384s(1:
39:41.383)
2792  #TP0.420 TN0.970 FP0.030 FN0.580 ER0.122 PR0.734 RC0.420 F0.534 k72  pPcF4x18G1x1N40b100  6110.470s(1:
41:50.469)
2793  #TP0.431 TN0.975 FP0.025 FN0.569 ER0.116 PR0.774 RC0.431 F0.554 k144 pPcbF4x18G1x1N40b100  16032.424s
(4:27:12.424)
2794  #
2795  #TP0.404 TN0.952 FP0.048 FN0.596 ER0.139 PR0.629 RC0.404 F0.492 k72  rP1F12G1x1N40b100  5744.459s(1:35
:44.458)
2796  #TP0.420 TN0.951 FP0.049 FN0.580 ER0.137 PR0.633 RC0.420 F0.505 k72  rPcF12G1x1N40b100  5968.307s(1:39
:28.306)
2797  #TP0.438 TN0.961 FP0.039 FN0.562 ER0.126 PR0.694 RC0.438 F0.537 k144 rPcbF12G1x1N40b100  15860.458s(4
:24:20.458)
2798  #TP0.415 TN0.947 FP0.053 FN0.585 ER0.142 PR0.609 RC0.415 F0.494 k168 rPcbF12G3x1N40b100  20114.665s(5
:35:14.664)
2799  #??
2800  #TP0.519 TN0.955 FP0.045 FN0.481 ER0.118 PR0.696 RC0.519 F0.594 k72  pP1F4x18G3x1N40b100  6189.662s(1:
43:09.661) pP1bF4x18G3x1 in can2m/speech
2801
2802  #TP0.403 TN0.965 FP0.035 FN0.597 ER0.129 PR0.697 RC0.403 F0.510 k54  pP1F3x18G1x1N40b100  4068.466s(1:
07:48.465) ??
2803
2804  #TP0.521 TN0.962 FP0.038 FN0.479 ER0.111 PR0.734 RC0.521 F0.610 k36  pP1F2x18G1x1N40b100  2570.162s(0:
```

```
42:50.162) nlznorm
2805  #TP0.473 TN0.960 FP0.040 FN0.527 ER0.121 PR0.704 RC0.473 F0.566 k36  pPcF2x18G1x1N40b100  2574.733s(0:
42:54.732) nlznorm
2806  #TP0.486 TN0.971 FP0.029 FN0.514 ER0.110 PR0.772 RC0.486 F0.596 k72  pPcbF2x18G1x1N40b100  5946.615s(1
:39:06.615) nlznorm&|sin(c)|***minER
2807  #TP0.388 TN0.937 FP0.063 FN0.612 ER0.154 PR0.553 RC0.388 F0.456 k32  rP1F8G1x1N40b100  2278.208s(0:37:
58.207)
2808  #TP0.362 TN0.914 FP0.086 FN0.638 ER0.178 PR0.458 RC0.362 F0.404 k32  rPcF8G1x1N40b100  2283.179s(0:38:
03.178)
2809  #TP0.351 TN0.926 FP0.074 FN0.649 ER0.170 PR0.488 RC0.351 F0.408 k64  rPcbF8G1x1N40b100  5000.816s(1:23
:20.815)
2810
2811  #??
2812  #??
2813  #?#TP0.473 TN0.960 FP0.040 FN0.527 ER0.122 PR0.701 RC0.473 F0.565 k36  pP1F2x18G1x1N40b100  2613.952s
(0:43:33.952) nlzmax
2814  #??
2815  #?#TP0.526 TN0.964 FP0.036 FN0.474 ER0.109 PR0.743 RC0.526 F0.616 k36  pP1F2x18G1x1N40b100  2550.840s
(0:42:30.840) nlzl ***ER is min.but ...
2816  #?#TP0.467 TN0.955 FP0.045 FN0.533 ER0.127 PR0.674 RC0.467 F0.552 k36  pPcF2x18G1x1N40b100  2525.975s
(0:42:05.975) nlzl
2817  #?#TP0.371 TN0.906 FP0.094 FN0.629 ER0.183 PR0.440 RC0.371 F0.403 k72  pPcbF2x18G1x1N40b100  5842.319
s(1:37:22.318) nlzl
2818  #??
2819  #?#TP0.521 TN0.962 FP0.038 FN0.479 ER0.111 PR0.734 RC0.521 F0.610 k36  pP1F2x18G1x1N40b100  2583.206s
(0:43:03.205) nlznorm
2820  #?#TP0.473 TN0.960 FP0.040 FN0.527 ER0.121 PR0.704 RC0.473 F0.566 k36  pPcF2x18G1x1N40b100  2574.733s
(0:42:54.732)
2821  #?#TP0.331 TN0.948 FP0.052 FN0.669 ER0.155 PR0.561 RC0.331 F0.416 k72  pPcbF2x18G1x1N40b100  5557.163
s(1:32:37.163)
2822  #??
2823  #??
2824  #?#TP0.514 TN0.965 FP0.035 FN0.486 ER0.110 PR0.748 RC0.514 F0.610 k36  pP1_2x18N40b100  2578.463s(0:4
2:58.463)
2825  #?#TP0.344 TN0.936 FP0.064 FN0.656 ER0.162 PR0.519 RC0.344 F0.414 k72  pPcb_2x18N40b100  5835.279s(1:
37:15.278)
2826  #?#TP0.504 TN0.934 FP0.066 FN0.496 ER0.137 PR0.606 RC0.504 F0.550 k36  pPc_2x18N40b100  2624.876s(0:4
3:44.876)
2827  #??
2828  #??
2829  #??
2830  #?#TP0.510 TN0.967 FP0.033 FN0.490 ER0.109 PR0.757 RC0.510 F0.610 k36  pP1_2x18N40b400  10424.659s(2:
53:44.658) b40N40***
2831  #
2832  #?#TP0.491 TN0.949 FP0.051 FN0.509 ER0.127 PR0.658 RC0.491 F0.563 k18  pP1_1x18N40b100  1309.965s(0:2
1:49.965)b100N40
2833  #?#TP0.514 TN0.965 FP0.035 FN0.486 ER0.110 PR0.748 RC0.514 F0.610 k36  pP1_2x18N40b100  2578.463s(0:4
2:58.463) b100N40
2834  #?#TP0.507 TN0.964 FP0.036 FN0.493 ER0.112 PR0.738 RC0.507 F0.601 k36  pP1_2x18N50b100  3066.879s(0:5
1:06.878) b100N50 rP1_2x18 in can2ml91122
2835  #??
2836  #?#TP0.434 TN0.973 FP0.027 FN0.566 ER0.117 PR0.761 RC0.434 F0.553 k72  pP1_4x18N40b100  5943.480s(1:3
9:03.479)
2837  #?#TP0.408 TN0.976 FP0.024 FN0.592 ER0.119 PR0.770 RC0.408 F0.534 k108 pP1_6x18N40b100  10127.507s(2
:48:47.507)
2838  #??
2839  #?#TP0.408 TN0.976 FP0.024 FN0.592 ER0.119 PR0.770 RC0.408 F0.534 k108 pP1_6x18  10127.507s(2:48:47.
507) b100N40
2840  #??
2841  #?R=0.8 b40 N100
2842  #?#TP0.474 TN0.941 FP0.059 FN0.526 ER0.137 PR0.618 RC0.474 F0.536 k18  pP1_1x18  1119.838s(0:18:39.83
8)
2843  #?#TP0.493 TN0.959 FP0.041 FN0.507 ER0.118 PR0.708 RC0.493 F0.581 k36  pP1_2x18  6094.982s(1:41:34.98
1)
2844  #?#TP0.375 TN0.958 FP0.042 FN0.625 ER0.139 PR0.641 RC0.375 F0.473 k54  pP1_3x18  3222.493s(0:53:42.49
2)
2845  #?#TP0.427 TN0.974 FP0.026 FN0.573 ER0.117 PR0.768 RC0.427 F0.549 k72  pP1_4x18  4390.628s(1:13:10.62
8)
2846  #?#TP0.375 TN0.971 FP0.029 FN0.625 ER0.128 PR0.724 RC0.375 F0.494 k90  pP1_5x18  5237.775s(1:27:17.77
4) nr5 na18
2847  #??
2848  #?#TP0.448 TN0.927 FP0.073 FN0.552 ER0.153 PR0.551 RC0.448 F0.494 k36  pPc_2x18  6677.294s(1:51:17.29
3)
2849  #??
2850  #?#TP0.321 TN0.936 FP0.064 FN0.679 ER0.167 PR0.499 RC0.321 F0.391 k72  pPcb_2x18  Time12569.152s(3:29
:29.152)
2851  #?#TP0.381 TN0.983 FP0.017 FN0.619 ER0.118 PR0.813 RC0.381 F0.519 k496 rP1_?x?  Time62833.130s(17:27
:13.129)
2852  #??
2853  #??
2854  #??
2855  #?#TP0.468 TN0.949 FP0.051 FN0.532 ER0.131 PR0.648 RC0.468 F0.544 k90  pPc_5x18  Time5451.207s(1:30:5
```

```
1.206) nr5 nal8
2856  #?#TP0.375 TN0.950 FP0.050 FN0.625 ER0.146 RC0.375 PR0.600 F0.462 k180 pPcb_5x18 Time13435.993s(3:4
3-55.993) nr5 nal8
2857  #??
2858  #??
2859  #??
2860  #??#TP0.375 TN0.971 FP0.029 FN0.625 ER0.128 RC0.375 PR0.724 F0.494 k90 FD:pP1 Time5237.775s(1:27:17.
774) nr5 nal8
2861  #??0.444 0.955 0.045 0.045 0.556 0.130 = 44 472 22 55 77 # 593 fhs 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=..
.#n,m,R,RX,mbas,N
2862  #??0.420 0.963 0.037 0.037 0.580 0.126 = 42 491 19 58 77 # 610 fms 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=..
.#n,m,R,RX,mbas,N
2863  #??0.550 0.976 0.024 0.024 0.450 0.093 = 55 498 12 45 57 # 610 mkk 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=..
.#n,m,R,RX,mbas,N
2864  #??0.330 0.982 0.018 0.018 0.670 0.125 = 33 497 9 67 76 # 606 mko 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=...
.#n,m,R,RX,mbas,N
2865  #??0.323 0.988 0.012 0.012 0.677 0.124 = 32 484 6 67 73 # 589 mmt 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=...
.#n,m,R,RX,mbas,N
2866  #??0.340 0.953 0.047 0.047 0.660 0.149 = 34 482 24 66 90 # 606 mnh 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=..
.#n,m,R,RX,mbas,N
2867  #??0.220 0.983 0.017 0.017 0.780 0.150 = 22 466 8 78 86 # 574 mym 0.8 0 2:40:1.6:1 100 #TP,TN,FP,FN,ER=...
.#n,m,R,RX,mbas,N
2868  #??#TP0.375 TN0.971 FP0.029 FN0.625 ER0.128 RC0.375 PR0.724 F0.494 k90 FD:pP1 Time5237.775s(1:27:17.
774)
2869  #??
2870  #??
2871  #?#NG #result includes weight0.2-self-speakers
2872  #??0.481 0.956 0.044 0.044 0.519 0.123 #mean TP TN FP FN ERR k36 FD:pP1 Time2014.950s(0:33:34.949) nr2nal8
2873  #??
2874  #?#result includes weight0.2-self-speakers
2875  #??0.444 0.967 0.033 0.033 0.556 0.107 #mean TP TN FP FN ERR pP1
2876  #??0.420 0.940 0.060 0.060 0.580 0.134 #mean TP TN FP FN ERR pPc
2877  #??0.302 0.949 0.051 0.051 0.698 0.143 #mean TP TN FP FN ERR pPcb
2878  #??
2879  #?#result for nr=2 na=18 #same as old feature vector q
2880  #?#cat ../../12voicedata_ueki_all_k8/speaker-verif-result-pPc.dat #oob prediction of training data F
D:pPc
2881  #??0.465 0.957 0.043 0.043 0.535 0.113 = 46 573 26 53 79 #TP,TN,FP,FN,ERR n698 m=fhs R0.8 RX0 mbas2:40:1.6
:1 N100
2882  #??0.580 0.958 0.042 0.042 0.420 0.096 = 58 573 25 42 67 #TP,TN,FP,FN,ERR n698 m=fms R0.8 RX0 mbas2:40:1.6
:1 N100
2883  #??0.620 0.945 0.055 0.055 0.380 0.102 = 62 565 33 38 71 #TP,TN,FP,FN,ERR n698 m=mkk R0.8 RX0 mbas2:40:1.6
:1 N100
2884  #??0.420 0.928 0.072 0.072 0.580 0.145 = 42 555 43 58 101 #TP,TN,FP,FN,ERR n698 m=mko R0.8 RX0 mbas2:40:1.
6:1 N100
2885  #??0.222 0.935 0.065 0.065 0.778 0.166 = 22 560 39 77 116 #TP,TN,FP,FN,ERR n698 m=mmt R0.8 RX0 mbas2:40:1.
6:1 N100
2886  #??0.370 0.935 0.065 0.065 0.630 0.146 = 37 559 39 63 102 #TP,TN,FP,FN,ERR n698 m=mnh R0.8 RX0 mbas2:40:1.
6:1 N100
2887  #??0.260 0.923 0.077 0.077 0.740 0.172 = 26 552 46 74 120 #TP,TN,FP,FN,ERR n698 m=mym R0.8 RX0 mbas2:40:1.
6:1 N100
2888  #??0.420 0.940 0.060 0.060 0.580 0.134 #mean TP TN FP FN ERR
2889  #??
2890  #?#cat ../../12voicedata_ueki_all_k8/speaker-verif-result-pPl.dat #oob prediction of training data F
D:pPc
2891  #??0.455 0.970 0.030 0.030 0.545 0.103 = 45 581 18 54 72 #TP,TN,FP,FN,ERR n698 m=fhs R0.8 RX0 mbas2:40:1.6
:1 N100
2892  #??0.390 0.972 0.028 0.028 0.610 0.112 = 39 581 17 61 78 #TP,TN,FP,FN,ERR n698 m=fms R0.8 RX0 mbas2:40:1.6
:1 N100
2893  #??0.550 0.965 0.035 0.035 0.450 0.095 = 55 577 21 45 66 #TP,TN,FP,FN,ERR n698 m=mkk R0.8 RX0 mbas2:40:1.6
:1 N100
2894  #??0.550 0.963 0.037 0.037 0.450 0.096 = 55 576 22 45 67 #TP,TN,FP,FN,ERR n698 m=mko R0.8 RX0 mbas2:40:1.6
:1 N100
2895  #??0.444 0.978 0.022 0.022 0.556 0.097 = 44 586 13 55 68 #TP,TN,FP,FN,ERR n698 m=mmt R0.8 RX0 mbas2:40:1.6
:1 N100
2896  #??0.380 0.952 0.048 0.048 0.620 0.130 = 38 569 29 62 91 #TP,TN,FP,FN,ERR n698 m=mnh R0.8 RX0 mbas2:40:1.6
:1 N100
2897  #??0.340 0.972 0.028 0.028 0.660 0.119 = 34 581 17 66 83 #TP,TN,FP,FN,ERR n698 m=mym R0.8 RX0 mbas2:40:1.6
:1 N100
2898  #??0.444 0.967 0.033 0.033 0.556 0.107 #mean TP TN FP FN ERR
2899  #??
2900  #?#cat ../../12voicedata_ueki_all_k8/speaker-verif-result-pPcb.dat
2901  #??0.313 0.977 0.023 0.023 0.687 0.117 = 31 585 14 68 82 #TP,TN,FP,FN,ERR n698 m=fhs R0.8 RX0 mbas2:40:1.6
:1 N100
2902  #??0.510 0.931 0.069 0.069 0.490 0.129 = 51 557 41 49 90 #TP,TN,FP,FN,ERR n698 m=fms R0.8 RX0 mbas2:40:1.6
:1 N100
2903  #??0.630 0.933 0.067 0.067 0.370 0.110 = 63 558 40 37 77 #TP,TN,FP,FN,ERR n698 m=mkk R0.8 RX0 mbas2:40:1.
6:1 N100
2904  #??0.140 0.948 0.052 0.052 0.860 0.168 = 14 567 31 86 117 #TP,TN,FP,FN,ERR n698 m=mko R0.8 RX0 mbas2:40:1.
6:1 N100
2905  #??0.111 0.960 0.040 0.040 0.889 0.160 = 11 575 24 88 112 #TP,TN,FP,FN,ERR n698 m=mmt R0.8 RX0 mbas2:40:1.
6:1 N100
```

```
2906  #??0.350 0.946 0.054 0.054 0.139 = 35 566 32 65 97 #TP,TN,FP,FN,ERR n698 m=mnh R0.8 RX0 mbas2:40:1.6
:1 N100
2907  #??0.060 0.946 0.054 0.054 0.940 0.181 = 6 566 32 94 126 #TP,TN,FP,FN,ERR n698 m=mym R0.8 RX0 mbas2:40:1.6
:1 N100
2908  #??0.302 0.949 0.051 0.051 0.698 0.143 #mean TP TN FP FN ERR pPcb
2909  #??
2910
2911
2912
2913  #####################################################################################
2914  #####################################################################################
2915  #20180905 #20180606の再試行+修正
2916  (0.1)リンク作成
2917  d0=/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/12voicedata
2918  d0=~/sotu/2012/12voicedata_ueki/
2919  dl=../12voicedata_ueki_all; mkdir -p $dl
2920  for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
2921  ln -s ${d0}/${d}/* ${dl}/
2922  done
2923  #(0.2)パワー正規化
2924  dn=${dl}_n; mkdir -p $dn #save normalized speech signal
2925  log=$dn/normalize.log
2926  #echo "ymin=$ymin" > $log
2927  ymin=0
2928  for s in fhs fms mkk mko mmt mnh mym; do
2929  for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
2930  cmd="python speechnormalize.py -yin ${dl}/${s}-${d}${l}.dat -yout ${dn}/${s}-${d}${l}.dat -ymi
n $ymin"
2931  echo $cmd; $cmd >> $log
2932  done
2933  done
2934  #err with
2935  #python speechnormalize.py -yin ../12voicedata_ueki_all/fhs-hachi5.dat -yout ../12voicedata_ueki_all
_n/fhs-hachi5.dat -ymin 0
2936  #python speechnormalize.py -yin ../12voicedata_ueki_all/mmt-san2.dat -yout ../12voicedata_ueki_all_n
/mmt-san2.dat -ymin 0
2937
2938
2939  ###
2940  ##(1) 混合音作成 by mkg.py
2941  dl=../../12voicedata_ueki_all;
2942  dn=${dl}_n:mkdir -p $dn  #normalized
2943  dm=${dl}_m:mkdir -p $dm  #mixed signal
2944  dp=${dl}_p:mkdir -p $dm  #poles
2945  dq=${dl}_q:mkdir -p $dq  #pole new
2946  df=${dl}_f: mkdir -p $df #figs
2947  #nohup python mkg.py -DISP 10&
2948
2949  #python mkg.py -R 0.8 -S fms -D zero -L 9 -DISP 10 #fms-zero9.dat とランダムに選んだ異話者のデータを
作成
2950  #cd ../12voicedata_ueki_all_q/
2951  #mkdir tmp;mv *-p.dat tmp/;cd tmp;
2952  #for f in *-p.dat ; do
2953  #  echo $f
2954  #  cat $f |awk '{printf("%s %s %s %s %s %s %s %s %s %s %s %s %s %s %s %s
%s %s %s %s %s %s %s\n",$1,$2,$3,$4,$5,$6,$7,$8,$9,$10,$11,$12,$13,$14,$15,$16,$17,$18,$19,$20,$
21,$22,$23,$24,$25,$26,$27,$28,$29,$30,$31,$32,$33,$34,$35,$36)}' > ../$f
2955  #done
2956
2957  #python mkg.py -R 0.4 -S fms -D zero -L 9 -DISP 10 #fms-zero9.dat とランダムに選んだ異話者のデータを
作成
2958  ls $dq/*-p.dat        #feature vector q
2959  ls $dp/*-poles0.dat   #
2960  ls $df/*-q2.eps*
2961  ls $df/*-pples0-*.eps
2962
2963  #(2) check whether necessary files exist or not.
2964  python mkg.py -sql 1
2965  #no fhs-hachi5 for R1
2966  #no mmt-san2 for R1
2967  #no fhs-hachi5 for R0.8
2968  #no mmt-san2 for R0.8
2969  #no fhs-hachi5 for R0.6
2970  #no mmt-san2 for R0.6
2971  #no fhs-hachi5 for R0.4
2972  #no mmt-san2 for R0.4
2973  #no fhs-hachi5 for R0.2
2974  #no mmt-san2 for R0.2
2975  #no fhs-hachi5 for R0.1
2976  #no mmt-san2 for R0.1
2977
2978  #(3)
```

```
2979  dl=../l2voicedata_ueki_all;
2980  dn=${dl}_n; mkdir -p $dn  #normalized
2981  dm=${dl}_m; mkdir -p $dm  #mixed signal
2982  dq=${dl}_q; mkdir -p $dq  #pole new
2983  sX=-1:a=1.6:b=10:N=40:#  for short time check
2984  sX=-1:a=1.6:b=40:N=100:  #
2985  mbas=2:${b}:${a}:1
2986  L=1:2:3:4:5:6:7:8:9:10
2987  D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
2988  S=fhs:fms:mkk:mko:mmt:mnh:mym
2989  R=1; RX=0
2990  cmd="python oob4speakerdigit+RX_20180602.py -sp $S -tx $D -L $L -R $R -RX $RX -k 36 -mbas $mbas -dir
$dq -s  -l -N ${N} -sX ${sX}"
2991  make data-clean
2992  $cmd
2993  #####
2994  cat ../l2voicedata_ueki_all_q/speaker-verif-result.dat
2995  0.938 0.987 0.013 0.062 0.020 #mean TP TN FP FN
2996  f=tmp/SV-R10
2997  f=tmp/SV-R8
2998  cp ../l2voicedata_ueki_all_q/speaker-verif-result.dat $f.dat
2999  cat > tmp/tmp.plt <<EOF
3000  set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3001  set term postscript eps enhanced color; set output "$f.eps";
3002  plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw
2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3003  set term tgif; set output "$f.obj";replot
3004  quit
3005  EOF
3006  gnuplot tmp/tmp.plt
3007  gv $f.eps&
3008  #
3009  ## Recall and precision
3010  Rs=(10 8 6 4 2 1)
3011  for R in ${Rs[@]} ;do
3012  f=tmp/SV-R$R
3013  head -7 $f.dat |awk 'BEGIN{aR=aP=0;}{TP=$7;TN=$8;FP=$9;FN=$10;R=TP/(TP+FN);P=TP/(TP+FP);aR+=R;aP+=
P;printf("%.3f %.3f %.3f #recall precision\n",TP/(TP+FN),TP/(TP+FP),(TP+TN)/(TP+TN+FP+FN));}END{printf("#%.3
f %.3f #mean for NR=%d\n",aR/NR,aP/NR,NR);}' > ${f}-RP.dat;
3014  cat > tmp/tmp.plt <<EOF
3015  set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3016  set term postscript eps enhanced color; set output "$f-RP.eps";
3017  plot [][0.3:1] "$f-RP.dat" using 0:2 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "P", "" using 0:1 w lp lt 1
lw 2 pt 10 lc rgb "green" t "R"
3018  set term tgif; set output "$f-RP.obj";replot
3019  set term postscript eps enhanced color; set output "$f-RPA.eps";
3020  plot [][0.3:1] "$f-RP.dat" using 0:2 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "P", "" using 0:1 w lp lt 1
lw 2 pt 10 lc rgb "green" t "R", "" using 0:3 w lp lt 1 lw 2 pt 6 lc rgb "red" t "A"
3021  set term tgif; set output "$f-RPA.obj";replot
3022  quit
3023  EOF
3024  #
3025  gnuplot tmp/tmp.plt
3026  gv $f-RP.eps&
3027  cp $f-RP.* ~/l8iconip/iconip18speech/draft
3028  gv $f-RPA.eps&
3029  cp $f-RPA.* ~/l8iconip/iconip18speech/draft
3030  done
3031  for R in ${Rs[@]} ;do
3032  f=tmp/SV-R$R
3033  echo -n "$f "; tail -1 $f-RP.dat
3034  done
3035  #
3036  tmp/SV-R10 #0.938 0.926 #mean for NR=7 Rs=(10)0.938 0.987 0.013 0.062 0.020 #mean TP TN FP FN ERR f=
tmp/SV-R10
3037  tmp/SV-R8 #0.483 0.899 #mean for NR=7 Rs=(8) 0.483 0.980 0.020 0.517 0.152 #mean TP TN FP FN ERR f=
tmp/SV-R8
3038  o@kurolab-VB:~/sotu/2018/can2bl2$ #mean for NR=7 Rs=(6) 0.468 0.977 0.023 0.532 0.160 #mean TP TN FP FN ERRkur
3039  tmp/SV-R6 #0.468 0.885 #mean for NR=7 Rs=(6)
3039  o@kurolab-VB:~/sotu/2018/can2bl2$ f=tmp/SV-R4 0.480 0.965 0.035 0.520 0.162 #mean TP TN FP FN ERRkur
3040  tmp/SV-R4 #0.480 0.833 #mean for NR=7 Rs=(4)
3040  o@kurolab-VB:~/sotu/2018/can2bl2$ f=tmp/SV-R2 0.466 0.964 0.036 0.534 0.169 #mean TP TN FP FN ERRkur
3041  tmp/SV-R2 #0.466 0.825 #mean for NR=7 Rs=(2)
3041  o@kurolab-VB:~/sotu/2018/can2bl2$ mkdir -p $dl 0.454 0.965 0.035 0.546 0.172 #mean TP TN FP FN ERR f=
tmp/SV-R1
3042  tmp/SV-R1 #0.454 0.823 #mean for NR=7 Rs=(1)
3043  ##############################
3044  #20180606 まとめ
3045  (0.1)リンク作成
3046  d0=/media/sf_C_DRIVE/cdata/kurolab/data/l2voicedata
3047  dl=../l2voicedata_ueki_all; mkdir -p $dl
3048  for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
```

```
3049  ln -s ${d0}/${d}/* ${dl}/
3050  done
3051  #(0.2)パワー正規化
3052  dn=${dl}_n; mkdir -p $dn  #save normalized speech signal
3053  log=$dn/normalize.log
3054  #echo "ymin=$ymin" > $log
3055  ymin=0
3056  for s in fhs fms mkk mko mmt mnh mym; do
3057  for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
3058  for l in 1 2 3 4 5 6 7 8 9 10; do
3059  cmd="python speechnormalize.py -yin ${dl}/${s}-${d}${l}.dat -yout ${dn}/${s}-${d}${l}.dat -ymi
n $ymin"
3060  echo $cmd; $cmd >> $log
3061  done
3062  done
3063  done
3064  #err with python speechnormalize.py -yin ../l2voicedata_ueki_all/mmt-san2.dat -yout ../l2voicedata_u
eki_all_n/mmt-san2.dat -ymin 100
3065  gnuplot
3066  plot "../l2voicedata_ueki_all_n/normalize.log" using 0:1 w l
3067  quit
3068  #(1) 混合音声作成 by sh/mkgrndl.sh
3069  #(1) nohup sh/mkgrndl.sh -DISP 0
3070  dl=../l2voicedata_ueki_all;
3071  dn=${dl}_n; mkdir -p $dn  #normalized
3072  dm=${dl}_m; mkdir -p $dm  #mixed signal
3073  dp=${dl}_p; mkdir -p $dm  #poles
3074  dq=${dl}_q; mkdir -p $dq  #pole new
3075  #(1-1) ymix=x*y0+(1-r)*y1
3076  python speechmix.py -y0 $dn/${s}-${d}${l}.dat -y1 $dn/${s}-${d2}${l2}.dat -r $r >$dm/${sm}/${sm}.dat
3077  $dn/fhs-gol.dat => $dm/fhs-gol-R1.dat
3078  $dn/fhs-gol.dat & fms-ni7 &r=0..6 => $dm/fhs-gol-fms-ni7-R0.6.dat
3079  (1-2)極を求めてtmp下のファイルに保存
3080  poledistribv2+ st:${sm} N:24 k:8 m:poles4 dir:${dm} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 T:100 DISP:0
3081  #
3082  sm0=fhs-gol
3083  sm=${sm0}-R1
3084  poledistribv2+ st:${sm} N:24 k:8 m:poles4 dir:${dm} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 T:100 DISP:0
3085  $dn/$sm.dat => tmp/${sm}-poles0.dat
3086  (1-3)
3087  mkpoleptv2+ st:$sm k:8 Np:24 dir:tmp dir2:${dm} dout:${dq} rsa:2:20 tt:0:400 nt:18 nr:2 r_max:2 DISP
:0 #
3088  ->tmp/*-poles0.dat
3089  nohup sh/mkgrndl.sh #一括して作成：いくつか作成漏れがあるバグ->mkg.pyで追加作成
3090  ####
3091  python mkg.py -R 0.4 -S fms -D zero -L 9 #fms-zero9.dat とランダムに選んだ異話者のデータを作成
3092  (1-4) search good p and q data for iconip18
3093  #(1-4-1) not effective now(20180910)
3094  #S=(fhs fms mkk mko mmt mnh mym)
3095  #L=(1 2 3 4 5 6 7 8 9 10)
3096  #D=(zero ichi ni san si go roku nana hachi kyu)
3097  #S=(fhs mkk)
3098  #S=(fms mko)
3099  #L=(1)
3100  #df=${dl}_f; mkdir -p $df  #figs
3101  #for s in ${S[@]}; do
3102  #  for d in ${D[@]}; do
3103  #    for l in ${L[@]}; do  #for l in `seq 1 9` ; do #    for l in 1 2 3 4 5 6 7 8 9; do
3104  #      sm=${s}-${d}${l}-R1
3105  #      cmd="poledistribv2+ st:${sm} N:24 k:8 m:poles4 dir:${dm} dout:${dq} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 T
:100 DISP:1"
3106  #      echo "$cmd"; $cmd
3107  #      cmd="mkpoleptv2+ st:$sm k:8 Np:24 dir:tmp dir2:${dm} dout:${dq} rsa:2:20 tt:0:400 nt:18 nr:2
r_max:2 DISP:1"
3108  #      echo $cmd;$cmd
3109  #      cmd="cp tmp/*-poles0.dat ${dp}/"
3110  #      echo $cmd;$cmd
3111  #      sleep 3
3112  #      cmd="mv tmp/q.obj ${df}/${sm}-q.obj";echo $cmd;$cmd
3113  #      cmd="mv tmp/q.eps ${df}/${sm}-q.eps";echo $cmd;$cmd
3114  #      cmd="mv tmp/_sprecog-${sm}-poles0-N${N}.obj ${df}/_sprecog-${sm}-poles0-N${N}.obj";echo $cmd:$
cmd
3115  #      cmd="mv tmp/_sprecog-${sm}-poles0-N${N}.eps ${df}/_sprecog-${sm}-poles0-N24.eps]{${sm}-q.eps}"
3116  #done;done;done;
3117  #for s in ${S[@]}; do
3118  #  for d in ${D[@]}; do
3119  #    for l in ${L[@]}; do #for l in `seq 1 9` ; do  for l in 1 2 3 4 5 6 7 8 9; do
3120  #      sm=${s}-${d}${l}-R1
3121  #      echo "\ko{_sprecog-${sm}-poles0-N24.eps}{${sm}-q.eps}"
3122  #done;done;done;
```

```
3123 #==> fhs-san mkk-san
3124 (1-4-2)
3125 df=${dl}_f; mkdir -p $df #figs
3126 S=(fhs mkk)
3127 R=(0.8 0.6 0.4 0.2)
3128 N=24
3129 S1=(mkk);S2=(fhs)
3130 S1=(fhs);S2=(mkk)
3131 D=(ni)
3132 D=(zero ichi si roku nana hachi kyu)
3133 #
3134 D=(go)
3135 R=(1);S1=(fhs mkk)
3136 D=(san)
3137 S1=(fhs);S2=(mkk)
3138 R=(1 0.8 0.6 0.4 0.2)
3139 L=(1)
3140 for s in ${S1[@]}; do
3141   for d in ${D[@]}; do
3142     for l in ${L[@]}; do #for l in `seq 1 9` ; do #    for l in 1 2 3 4 5 6 7 8 9; do
3143       for r in ${R[@]}; do
3144         if [ "$r" = "1" ]; then
3145           sm=${s}-${d}${l}-R1
3146         else
3147           s2=${s2[0]}
3148           d2=$d
3149           l2=1
3150           sm=${s}-${d}${l}-${s2}${d2}${l2}-R${r}
3151         fi
3152         cmd="python speechmix.py -y0 $dn/${s}-${d}${l}.dat -y1 $dn/${s2}-${d2}${l2}.dat -r $r"
3153         echo "$cmd>$dn/${sm}.dat"; $cmd > $dn/${sm}.dat
3154         cmd="poledistribv2+ st:${sm} N:${N} k:8 m:poles4 dir:${dm} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 nt:18 nr
0 T:100 DISP:1"
3155         echo "$cmd"; $cmd
3156         cmd="mkpoleptv2+ st:$sm k:8 Np:${N} dir:tmp dir2:${dm} dout:${dq} rsa:2:20 tt:0:400 nt:18 nr
:2 r_max:2 DISP:1"
3157         echo $cmd;$cmd
3158         cmd="cp tmp/*-poles0.dat ${dp}/";
3159         echo $cmd;$cmd
3160         sleep 3
3161         cmd="mv tmp/q2.obj ${df}/${sm}-q2.obj";echo $cmd;$cmd
3162         cmd="mv tmp/q2.eps ${df}/${sm}-q2.eps";echo $cmd;$cmd
3163         cmd="mv tmp/q2.dat ${df}/${sm}-q2.dat";echo $cmd;$cmd
3164         cmd="mv tmp/_sprecog-${sm}-poles0-N${N}.obj ${df}/_sprecog-${sm}-poles0-N${N}.obj";echo $cmd;
$cmd
3165         cmd="mv tmp/_sprecog-${sm}-poles0-N${N}.eps ${df}/_sprecog-${sm}-poles0-N${N}.eps";echo $cmd;
$cmd
3166 done;done;done;done;
3167 cd ??
3168 for f in *-q.dat; do
3169   fb2=${f%.dat}2
3170   cat $f|awk '{q[NR]=$1;}END{for(n=0;n<NR;n+=2) printf("%d %d\n",q[n],q[n+1]);}'>${fb2}.dat
3171   cat > tmp.plt << EOF
3172 set style fill solid border lc rgb "black"
3173 set boxwidth 1
3174 set term postscript eps enhanced color; set output "${fb2}.eps"
3175 plot [0:36][0:300]"${fb2}.dat" using (\$0*2-0.5):1 with boxes lw 2 lc rgb "light-red", \
3176 "${fb2}.dat" using (\$0*2+0.5):2 with boxes lw 2 lc rgb "light-green"
3177 set term tgif; set output "${fb2}.obj";replot
3178 EOF
3179 gnuplot tmp.plt
3180 gv ${fb2}.eps&
3181 done
3182 for f in sprecog-fhs-san1-R1-poles0-N24 \
3183   sprecog-fhs-san1-mkk-san1-R0.8-poles0-N24\
3184 for f in sprecog-fhs-san1-R1-poles0-N24 \
3185   sprecog-fhs-san1-mkk-san1-R0.8-poles0-N24\
3186   sprecog-fhs-san1-mkk-san1-R0.6-poles0-N24\
3187   sprecog-fhs-san1-mkk-san1-R0.4-poles0-N24\
3188   sprecog-fhs-san1-mkk-san1-R0.2-poles0-N24\
3189   sprecog-fhs-san1-mkk-san1-R0.2-poles0-N24\
3190   sprecog-mkk-san1-R1-poles0-N24\
3191   fhs-san1-R1-q2\
3192   fhs-san1-mkk-san1-R0.8-q2\
3193   fhs-san1-mkk-san1-R0.6-q2\
3194   fhs-san1-mkk-san1-R0.4-q2\
3195   fhs-san1-mkk-san1-R0.2-q2\
3196   mkk-san1-R1-q2 ;do
3197 cp $df/$f.obj ~/18iconip/iconip18speech/draft
3198 done
3199
3200 for f in `ls   $dm/*.dat` ; do #for f in `ls $dm/fhs-gol-R1*` ; do
```

```
3201 make data-clean
3202 sm=${f%.dat}
3203 cmd="poledistribv2+ st:${sm} N:24 k:8 m:poles4 dir:${dm} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 T:100 D
ISP:0"
3204 echo "$cmd"; $cmd
3205 cmd="mkpoleptv2+ st:$sm k:8 Np:24 dir:tmp dir2:${dm} dout:${dq} rsa:2:20 tt:0:400 nt:18 nr:2 r_max:
2 DISP:0"
3206 echo $cmd;$cmd
3207 cmd1="cp tmp/*-poles0.dat ${dp}/";
3208 echo $cmd1;$cmd1
3209 done
3210
3211 #(2)
3212
3213 20180226=20180209
3214 0180209: oob4speakerdigit=sX_2018 (0206版) は test_xy.datの学習・予測が行われていなかったので、修正。
3215 ################
3216 #(1) コメント from Tagomori from here
3217 ################
3218 #20180531
3219 #(0)
3220 d0=/media/sf_C_DRIVE/cdata/kurolab/data/l2voicedata_ueki/l2voicedata
3221 dl=../l2voicedata_ueki_all; mkdir -p $dl
3222 for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
3223   ln -s ${d0}/${d}/* ${dl}/
3224 done
3225
3226 #(0) power normalization of speech; see the log to see the original difference of the power
3227 dn=${dl}_n; mkdir -p $dn #save normalized speech signal
3228 log=$dn/normalize.log
3229 #echo "ymin=$ymin" > $log
3230 ymin=0
3231 for s in fhs fms mkk mko mmt mnh mym; do
3232   for d in zero ichi ni san si go roku nana hachi kyu rei yon sichi ku; do
3233     for l in 1 10; do
3234       #  for l in 1 2 3 4 5 6 7 8 9 10; do
3235       cmd="python speechnormalize.py -yin ${dl}/${s}-${d}${l}.dat -yout ${dn}/${s}-${d}${l}.dat -ymi
n $ymin"
3236       echo $cmd; $cmd >> $log
3237     done
3238   done
3239 done
3240 #error with python speechnormalize.py -yin ../l2voicedata_ueki_all_n/normalize.py -yin ../l2voicedata/mmt-san2.dat -yout ../l2voicedata
_ueki_all_n/mmt-san2.dat -ymin 100
3241 gnuplot
3242 plot "../l2voicedata_ueki_all_n/normalize.log" using 0:1 w l
3243 quit
3244 #python speechnormalize.py -yin ${dl}/${s}-${d1}${l1}.dat -yout ${dn}/${s}-${d1}${l1}.dat -ymin 5
3245 #python speechnormalize.py -yin ${dl}/${s}-${d2}${l2}.dat -yout ${dn}/${s}-${d2}${l2}.dat -ymin 5
3246 #plot "../l2voicedata_ueki_all_n/fhs-kyu9.dat" using 0:1 w l, "../l2voicedata_ueki_all_n/mkk-san5.da
t" using 0:1 w l
3247 #(1) make mixed speech and its pole distribution
3248 s1=fhs;d1-san:l1=1
3249 s1=fhs;d1-san:l1=1
3250 s2=mkk:d2=san:l2=1
3251 s1=fhs;d1=kyu:l1=9
3252 s2=mkk:d2=san;l2=5 #big power
3253 sd11=${s1}-${d1}${l1}
3254 sd12=${s1}-${d2}${l2}
3255 r=0.5
3256 r=0.9
3257 sm=${s1}-${d1}${l1}-${s2}-${d2}${l2}-R${r}
3258 dn=${dl}_n; mkdir -p $dn
3259 python speechmix.py -y0 $dn/${s1}-${d1}${l1}.dat -y1 $dn/${s2}-${d2}${l2}.dat -r $r > $dn/${sm}.dat
3260 mkdir -p tmp
3261 cat > tmp/tmp.plt <<EOF
3262 set term postscript eps enhanced color; set output "tmp/tmp.eps";
3263 plot "$dn/${s1}-${d1}${l1}.dat" using 0:1 w l, "$dn/${s2}-${d2}${l2}.dat" using 0:1 w lp, "$dn/${sm}
.dat" using 0:1 w l
3264 quit
3265 EOF
3266 gnuplot tmp/tmp.plt
3267 gv tmp/tmp.eps&
3268
3269 poledistribv2 sp:${s1} tx:${d1}${l1} N:24 k:8 m:poles4 dir:$dn rsa:2:0.7:1:20 DISP:1 DiffMode:0 tt:0
:400 T:100
3270 poledistribv2 sp:${s2} tx:${d2}${l2} N:24 k:8 m:poles4 dir:$dn rsa:2:0.7:1:20 DISP:1 DiffMode:0 tt:0
:400 T:100
3271 poledistribv2+ st:${sm} N:24 k:8 m:poles4 dir:$dn rsa:2:0.7:1:20 DISP:1 DiffMode:0 tt:0:400 T:100
3272
3273 #(2)
3274 dp=${dn}p; mkdir -p $dp
```

```
3275 mkpoleptv2+ st:$sm k:8 Np:24 dir:tmp dir2:${dn} dout:${dp} rsa:2:20 tt:0:400 nt:18 nr:2 r_max:2 DISP
:1
3276
3277
3278 #(1) and (2) make all q with 0.5 #check non-exsisting files
3279 for s in fhs fms mkk mko mmt mnh mym; do echo -n $s;ls -l ${dn}/${s}* >../wc.txt;wc ../wc.txt;done
3280 fhs 139 1251 11589 ../wc.txt no fhs-hachi5
3281 fms 140 1260 11674 ../wc.txt
3282 mkk 140 1260 11674 ../wc.txt
3283 mko 140 1260 11674 ../wc.txt
3284 mmt 139 1251 11591 ../wc.txt no mmt-san2
3285 mnh 140 1260 11674 ../wc.txt
3286 mym 140 1260 11674 ../wc.txt
3287 for ((n=10;n<700:n+100));do
3288    echo -n "L$n "; cat ../wc.txt|head -$n |tail -1
3289 done
3290
3291 nohup sh/mkqrndl.sh
3292 wc ${dq}/*R1*|tail -1    # 698 25128 69546 合計
3293 wc ${dq}/*R0.8*|tail -1  # 698 25128 70861 合計
3294 wc ${dq}/*R0.6*|tail -1  # 697 25092 70960 合計
0.6*
3295 wc ${dq}/*R0.4*|tail -1  # 694 24984 70735 合計
3296 wc ${dq}/*R0.2*|tail -1  # 698 25128 70734 合計
3297 python mkq.py -sgl 1
3298 #no fhs-hachi5 for R0.2
3299 #no mmt-san2 for R0.2
3300 #no fhs-hachi5 for R0.4 -
3301 #no fms-zero9 for R0.4 +   python mkq.py -R 0.4 -S fms -D zero -L 9
3302 #no fms-san6 for R0.4 +    python mkq.py -R 0.4 -S fms -D san -L 6
3303 #no fms-roku6 for R0.4 +   python mkq.py -R 0.4 -S fms -D roku -L 6
3304 #no mmt-san2 for R0.4 +    python mkq.py -R 0.4 -S mym -D kyu -L 10
3305 #no mym-kyu10 for R0.4 +
3306 #no fhs-hachi5 for R0.6 -
3307 #no fms-zero8 for R0.6 +   python mkq.py -R 0.6 -S fms -D zero -L 8
3308 #no mmt-san2 for R0.6 -
3309 #no fhs-hachi5 for R0.8 -
3310 #no mmt-san2 for R0.8 -
3311 #(3)
3312 dl=../l2voicedata_ueki_all;
3313 dn=${dl}_n; mkdir -p $dn   #normalized
3314 dm=${dl}_m; mkdir -p $dm   #mixed signal
3315 dq=${dl}_q; mkdir -p $dq   #pole new
3316 sX=-1/a=1.6;b=10:N=40;# for short time check
3317 sX=-1/a=1.6;b=40:N=100; #
3318 mbas=2:${b}:${a}:1
3319 L=1:2:3:4:5:6:7:8:9:10
3320 D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
3321 S=fhs:fms:mkk:mko:mmt:mnh:mym
3322 R=1; RX=0
3323 cmd="python oob4speakerdigit+RX_20180602.py -sp $S -tx $D -L -R $R -RX $RX -k 36 -mbas $mbas -dir
$dq -s -1 -N ${N} -sX ${sX}"
3324 make data-clean
3325 $cmd
3326 #
3327 f=tmp/SV-R10
3328 cat > $f.dat <<EOF
3329 0.980 0.988 0.012 0.020 0.013 = 97 592 7 2 9 #TP,TN,FP,FN,ERR n698 m=fhs R1 RX0 mbas2:40:1.6:1 N100
3330 0.930 0.992 0.008 0.017 0.017 = 93 593 5 7 12 #TP,TN,FP,FN,ERR n698 m=fms R1 RX0 mbas2:40:1.6:1 N100
3331 0.940 0.988 0.012 0.060 0.019 = 94 591 7 6 13 #TP,TN,FP,FN,ERR n698 m=mkk R1 RX0 mbas2:40:1.6:1 N100
3332 0.950 0.980 0.020 0.050 0.024 = 95 586 12 5 17 #TP,TN,FP,FN,ERR n698 m=mko R1 RX0 mbas2:40:1.6:1 N100
0
3333 0.929 0.992 0.005 0.071 0.017 = 92 594 5 7 12 #TP,TN,FP,FN,ERR n698 m=mmt R1 RX0 mbas2:40:1.6:1 N100
3334 0.900 0.995 0.005 0.100 0.019 = 90 595 3 10 13 #TP,TN,FP,FN,ERR n698 m=mnh R1 RX0 mbas2:40:1.6:1 N10
0
3335 0.940 0.975 0.025 0.060 0.030 = 94 583 15 6 21 #TP,TN,FP,FN,ERR n698 m=mym R1 RX0 mbas2:40:1.6:1 N10
0
3336 0.938 0.987 0.013 0.062 0.020 #mean TP TN FP FN ERR
3337 EOF
3338 cat > tmp/tmp.plt <<EOF
3339 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3340 set term postscript eps enhanced color; set output "$f.eps";
3341 plot [|0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw
2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3342 set term tgif; set output "$f.obj";replot
3343 quit
3344 EOF
3345 gnuplot tmp/tmp.plt
3346 gv $f.eps&
3347
3348 ##
3349
```

```
3350 f=tmp/SV-R108
3351 cat > $f.dat <<EOF
3352 0.659 0.977 0.023 0.341 0.089 = 191 1081 25 99 124 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40:
1.6:1 N100
3353 0.653 0.983 0.017 0.347 0.085 = 188 1089 19 100 119 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1 N100
3354 0.622 0.989 0.011 0.378 0.091 = 189 1080 12 115 127 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.6:1 N100
3355 0.631 0.980 0.020 0.369 0.095 = 190 1073 22 111 133 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1 N100
3356 0.616 0.986 0.014 0.384 0.094 = 186 1079 15 116 131 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:1.6:1 N100
3357 0.623 0.968 0.032 0.377 0.108 = 192 1053 35 116 151 #TP,TN,FP,FN,ERR n1396 m=mnh R1:0.8 RX0 mbas2:40
:1.6:1 N100
3358 0.601 0.978 0.022 0.399 0.103 = 181 1071 24 120 144 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1 N100
3359 0.629 0.980 0.020 0.371 0.095 #mean TP TN FP FN ERR
3360 EOF
3361 cat > tmp/tmp.plt <<EOF
3362 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3363 set term postscript eps enhanced color; set output "$f.eps";
3364 plot [|0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw
2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3365 set term tgif; set output "$f.obj";replot
3366 quit
3367 EOF
3368 gnuplot tmp/tmp.plt
3369 gv $f.eps&
3370 ##
3371 f=tmp/SV-R1086
3372 cat > $f.dat <<EOF
3373 0.549 0.969 0.031 0.451 0.129 = 269 1555 49 221 270 #TP,TN,FP,FN,ERR n2094 m=fhs R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3374 0.569 0.961 0.039 0.431 0.130 = 278 1543 62 211 273 #TP,TN,FP,FN,ERR n2094 m=fms R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3375 0.548 0.983 0.017 0.452 0.123 = 279 1558 27 230 257 #TP,TN,FP,FN,ERR n2094 m=mkk R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3376 0.576 0.968 0.032 0.424 0.128 = 295 1532 50 217 267 #TP,TN,FP,FN,ERR n2094 m=mko R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3377 0.575 0.970 0.030 0.425 0.122 = 279 1560 49 206 255 #TP,TN,FP,FN,ERR n2094 m=mmt R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3378 0.543 0.970 0.030 0.457 0.132 = 272 1546 47 229 276 #TP,TN,FP,FN,ERR n2094 m=mnh R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3379 0.575 0.964 0.036 0.425 0.129 = 290 1533 57 214 271 #TP,TN,FP,FN,ERR n2094 m=mym R1:0.8:0.6 RX0 mbas
2:40:1.6:1 N100
3380 0.562 0.969 0.031 0.438 0.128 #mean TP TN FP FN ERR
3381 EOF
3382 cat > tmp/tmp.plt <<EOF
3383 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3384 set term postscript eps enhanced color; set output "$f.eps";
3385 plot [|0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw
2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3386 set term tgif; set output "$f.obj";replot
3387 quit
3388 EOF
3389 gnuplot tmp/tmp.plt
3390 gv $f.eps&
3391 #
3392 f=tmp/SV-R10864
3393 cat > $f.dat <<EOF
3394 0.496 0.964 0.036 0.504 0.152 = 343 2024 76 349 425 #TP,TN,FP,FN,ERR n2792 m=fhs R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3395 0.547 0.948 0.052 0.453 0.151 = 378 1992 109 313 422 #TP,TN,FP,FN,ERR n2792 m=fms R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3396 0.533 0.963 0.037 0.467 0.146 = 380 2003 76 333 409 #TP,TN,FP,FN,ERR n2792 m=mkk R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3397 0.523 0.949 0.051 0.477 0.163 = 383 1954 106 349 455 #TP,TN,FP,FN,ERR n2792 m=mko R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3398 0.545 0.950 0.050 0.455 0.148 = 367 2013 106 306 412 #TP,TN,FP,FN,ERR n2792 m=mmt R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3399 0.540 0.950 0.050 0.460 0.152 = 373 1996 105 318 423 #TP,TN,FP,FN,ERR n2792 m=mnh R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3400 0.530 0.963 0.037 0.470 0.144 = 368 2021 77 326 403 #TP,TN,FP,FN,ERR n2792 m=mym R1:0.8:0.6:0.4 RX0
mbas2:40:1.6:1 N100
3401 0.531 0.955 0.045 0.469 0.151 #mean TP TN FP FN ERR
3402 EOF
3403 cat > tmp/tmp.plt <<EOF
3404 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3405 set term postscript eps enhanced color; set output "$f.eps";
3406 plot [|0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw
2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3407 set term tgif; set output "$f.obj";replot
```

```
3408 quit
3409 EOF
3410 gnuplot tmp/tmp.plt
3411 gv $f.eps&
3412 #
3413 f=tmp/SV-RI08642
3414 cat > $f.dat <<EOF
3415 0.502 0.962 0.038 0.498 0.155 = 448 2500 98 444 542 #TP,TN,FP,FN,ERR n3490 m=fhs R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3416 0.519 0.961 0.039 0.481 0.153 = 467 2489 101 433 534 #TP,TN,FP,FN,ERR n3490 m=fms R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3417 0.507 0.960 0.040 0.493 0.159 = 464 2471 104 451 555 #TP,TN,FP,FN,ERR n3490 m=mkk R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3418 0.470 0.964 0.036 0.530 0.168 = 440 2463 91 496 587 #TP,TN,FP,FN,ERR n3490 m=mko R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3419 0.481 0.965 0.035 0.519 0.155 = 416 2533 92 449 541 #TP,TN,FP,FN,ERR n3490 m=mmt R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3420 0.486 0.957 0.043 0.514 0.162 = 429 2495 113 453 566 #TP,TN,FP,FN,ERR n3490 m=mnh R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3421 0.497 0.960 0.040 0.503 0.158 = 443 2495 103 449 552 #TP,TN,FP,FN,ERR n3490 m=mym R1:0.8:0.6:0.4:0.2 RXO mbas2:40:1.6:1 N100
3422 0.495 0.961 0.039 0.505 0.159 #mean TP TN FP FN ERR
3423 EOF
3424 cat > tmp/tmp.plt <<EOF
3425 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3426 set term postscript eps enhanced color; set output "$f.eps";
3427 plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw 2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3428 set term tgif; set output "$f.obj";replot
3429 quit
3430 EOF
3431 gnuplot tmp/tmp.plt
3432 gv $f.eps&
3433 ################### single R
3434 f=tmp/SV-R8
3435 cat > $f.dat <<EOF
3436 0.455 0.976 0.024 0.545 0.166 = 87 495 12 104 116 #TP,TN,FP,FN,ERR n698 m=fhs R0.8 RXO mbas2:40:1.6:1 N100
3437 0.468 0.982 0.018 0.532 0.156 = 88 501 9 100 109 #TP,TN,FP,FN,ERR n698 m=fms R0.8 RXO mbas2:40:1.6:1 N100
3438 0.446 0.984 0.016 0.554 0.173 = 91 486 8 113 121 #TP,TN,FP,FN,ERR n698 m=mkk R0.8 RXO mbas2:40:1.6:1 N100
3439 0.458 0.960 0.040 0.542 0.185 = 92 477 20 109 129 #TP,TN,FP,FN,ERR n698 m=mko R0.8 RXO mbas2:40:1.6:1 N100
3440 0.438 0.986 0.014 0.562 0.173 = 89 488 7 114 121 #TP,TN,FP,FN,ERR n698 m=mmt R0.8 RXO mbas2:40:1.6:1 N100
3441 0.428 0.978 0.022 0.572 0.186 = 89 479 11 119 130 #TP,TN,FP,FN,ERR n698 m=mnh R0.8 RXO mbas2:40:1.6:1 N100
3442 0.463 0.986 0.014 0.537 0.165 = 93 490 7 108 115 #TP,TN,FP,FN,ERR n698 m=mym R0.8 RXO mbas2:40:1.6:1 N100
3443 0.451 0.979 0.021 0.549 0.172 #mean TP TN FP FN ERR
3444 EOF
3445 cat > tmp/tmp.plt <<EOF
3446 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3447 set term postscript eps enhanced color; set output "$f.eps";
3448 plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw 2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3449 set term tgif; set output "$f.obj";replot
3450 quit
3451 EOF
3452 gnuplot tmp/tmp.plt
3453 gv $f.eps&
3454 f=tmp/SV-R6
3455 cat > $f.dat <<EOF
3456 0.415 0.972 0.028 0.585 0.188 = 83 484 14 117 131 #TP,TN,FP,FN,ERR n698 m=fhs R0.6 RXO mbas2:40:1.6:1 N100
3457 0.433 0.984 0.016 0.567 0.175 = 87 489 8 114 122 #TP,TN,FP,FN,ERR n698 m=fms R0.6 RXO mbas2:40:1.6:1 N100
3458 0.473 0.982 0.018 0.527 0.168 = 97 484 9 108 117 #TP,TN,FP,FN,ERR n698 m=mkk R0.6 RXO mbas2:40:1.6:1 N100
3459 0.441 0.979 0.021 0.559 0.183 = 93 477 10 118 128 #TP,TN,FP,FN,ERR n698 m=mko R0.6 RXO mbas2:40:1.6:1 N100
3460 0.497 0.975 0.025 0.503 0.150 = 91 502 13 92 105 #TP,TN,FP,FN,ERR n698 m=mmt R0.6 RXO mbas2:40:1.6:1 N100
3461 0.461 0.978 0.022 0.539 0.165 = 89 494 11 104 115 #TP,TN,FP,FN,ERR n698 m=mnh R0.6 RXO mbas2:40:1.6:1 N100
3462 0.433 0.974 0.026 0.567 0.183 = 88 482 13 115 128 #TP,TN,FP,FN,ERR n698 m=mym R0.6 RXO mbas2:40:1.6:1 N100
3463 0.450 0.978 0.022 0.550 0.173 #mean TP TN FP FN ERR
3464 EOF
3465 cat > tmp/tmp.plt <<EOF
3466 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
```

```
3467 set term postscript eps enhanced color; set output "$f.eps";
3468 plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw 2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3469 set term tgif; set output "$f.obj";replot
3470 quit
3471 EOF
3472 gnuplot tmp/tmp.plt
3473 gv $f.eps&
3474 f=tmp/SV-R4
3475 cat > $f.dat <<EOF
3476 0.426 0.980 0.020 0.574 0.181 = 86 486 10 116 126 #TP,TN,FP,FN,ERR n698 m=fhs R0.4 RXO mbas2:40:1.6:1 N100
3477 0.401 0.968 0.032 0.599 0.196 = 81 480 16 121 137 #TP,TN,FP,FN,ERR n698 m=fms R0.4 RXO mbas2:40:1.6:1 N100
3478 0.451 0.972 0.028 0.549 0.181 = 92 480 14 112 126 #TP,TN,FP,FN,ERR n698 m=mkk R0.4 RXO mbas2:40:1.6:1 N100
3479 0.436 0.973 0.027 0.564 0.196 = 96 465 13 124 137 #TP,TN,FP,FN,ERR n698 m=mko R0.4 RXO mbas2:40:1.6:1 N100
3480 0.426 0.978 0.022 0.574 0.170 = 80 499 11 108 119 #TP,TN,FP,FN,ERR n698 m=mmt R0.4 RXO mbas2:40:1.6:1 N100
3481 0.463 0.947 0.053 0.537 0.185 = 88 481 27 102 129 #TP,TN,FP,FN,ERR n698 m=mnh R0.4 RXO mbas2:40:1.6:1 N100
3482 0.468 0.963 0.037 0.532 0.172 = 89 489 19 101 120 #TP,TN,FP,FN,ERR n698 m=mym R0.4 RXO mbas2:40:1.6:1 N100
3483 0.439 0.969 0.031 0.561 0.183 #mean TP TN FP FN ERR
3484 EOF
3485 cat > tmp/tmp.plt <<EOF
3486 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3487 set term postscript eps enhanced color; set output "$f.eps";
3488 plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw 2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3489 set term tgif; set output "$f.obj";replot
3490 quit
3491 EOF
3492 gnuplot tmp/tmp.plt
3493 gv $f.eps&
3494 f=tmp/SV-R2
3495 cat > $f.dat <<EOF
3496 0.390 0.972 0.028 0.610 0.195 = 78 484 14 122 136 #TP,TN,FP,FN,ERR n698 m=fhs R0.2 RXO mbas2:40:1.6:1 N100
3497 0.435 0.971 0.029 0.565 0.189 = 91 475 14 118 132 #TP,TN,FP,FN,ERR n698 m=fms R0.2 RXO mbas2:40:1.6:1 N100
3498 0.431 0.966 0.034 0.569 0.189 = 87 479 17 115 132 #TP,TN,FP,FN,ERR n698 m=mkk R0.2 RXO mbas2:40:1.6:1 N100
3499 0.397 0.972 0.028 0.603 0.196 = 81 480 14 123 137 #TP,TN,FP,FN,ERR n698 m=mko R0.2 RXO mbas2:40:1.6:1 N100
3500 0.422 0.964 0.036 0.578 0.185 = 81 488 18 111 129 #TP,TN,FP,FN,ERR n698 m=mmt R0.2 RXO mbas2:40:1.6:1 N100
3501 0.435 0.961 0.039 0.565 0.183 = 83 487 20 108 128 #TP,TN,FP,FN,ERR n698 m=mnh R0.2 RXO mbas2:40:1.6:1 N100
3502 0.460 0.954 0.046 0.540 0.186 = 91 477 23 107 130 #TP,TN,FP,FN,ERR n698 m=mym R0.2 RXO mbas2:40:1.6:1 N100
3503 0.424 0.966 0.034 0.576 0.189 #mean TP TN FP FN ERR
3504 EOF
3505 cat > tmp/tmp.plt <<EOF
3506 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3507 set term postscript eps enhanced color; set output "$f.eps";
3508 plot [][:0.7] "$f.dat" using 0:3 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "FP", "" using 0:4 w lp lt 1 lw 2 pt 10 lc rgb "green" t "FN", "" using 0:5 w lp lt 1 lw 2 pt 6 lc rgb "red" t "ERR"
3509 set term tgif; set output "$f.obj";replot
3510 quit
3511 EOF
3512 gnuplot tmp/tmp.plt
3513 gv $f.eps&
3514 ###Recall and precision
3515 for R in 10 8 6 4 2 ;do
3516 f=tmp/SV-R${R}
3517 head -7 $f.dat |awk 'BEGIN{aR=aP=0;}{TP=$7;TN=$8;FP=$9;FN=$10;R=TP/(TP+FN);P=TP/(TP+FP);aR+=R;aP+=P;printf("%.3f %.3f %.3f #recall precision\n",TP/(TP+FN),TP/(TP+FP),(TP+TN)/(TP+TN+FP+FN));}END{printf("#%.3f %.3f #mean for NR=$d\n",aR/NR,aP/NR,aP/NR);}' > ${f}-RP.dat;
3518 cat > tmp/tmp.plt <<EOF
3519 set xtics ('fHS' 0, 'fMS' 1, 'mKK' 2, 'mKO' 3, 'mMT' 4, 'mNH' 5, 'mYM' 6, 'mean' 7)
3520 set term postscript eps enhanced color; set output "$f-RP.eps";
3521 plot [][0.3:1] "$f-RP.dat" using 0:2 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "P", "" using 0:1 w lp lt 1 lw 2 pt 10 lc rgb "green" t "R"
3522 set term tgif; set output "$f-RP.obj";replot
3523 set term postscript eps enhanced color; set output "$f-RPA.eps";
3524 plot [][0.3:1] "$f-RP.dat" using 0:2 w lp lt 1 lw 2 pt 8 lc rgb "blue" t "P", "" using 0:1 w lp lt 1 lw 2 pt 10 lc rgb "green" t "R", "" using 0:3 w lp lt 1 lw 2 pt 6 lc rgb "red" t "A"
3525 set term tgif; set output "$f-RPA.obj";replot
3526 quit
3527 quit
```

```
3528  EOF
3529  gnuplot tmp/tmp.plt
3530  gv $f-RP.eps&
3531  cp $f-RP.* ~/18iconip/iconip18speech/draft
3532  gv $f-RPA.eps& ~/18iconip/iconip18speech/draft
3533  cp $f-RPA.* ~/18iconip/iconip18speech/draft
3534  done
3535  #
3536  for R in 10 8 6 4 2 ;do
3537    f=tmp/SV-R${R}
3538    echo -n "$f "; tail -1 $f-RP.dat
3539  done
3540  tmp/SV-R10 0.938 0.936 #mean for NR=6
3541  tmp/SV-R8 0.449 0.891 #mean for NR=6
3542  tmp/SV-R6 0.453 0.892 #mean for NR=6
3543  tmp/SV-R4 0.434 0.854 #mean for NR=6
3544  tmp/SV-R2 0.418 0.838 #mean for NR=6
3545  #
3546  ###
3547  cat > tmp/SV-R86.dat <<EOF
3548  0.504 0.966 0.034 0.496 0.172 = 215 971 34 212 246 #TP,TN,FP,FN,ERR n1432 m=fhs R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3549  0.463 0.953 0.047 0.537 0.183 = 184 986 49 213 262 #TP,TN,FP,FN,ERR n1432 m=fms R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3550  0.443 0.958 0.042 0.557 0.201 = 196 948 42 246 288 #TP,TN,FP,FN,ERR n1432 m=mkk R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3551  0.474 0.955 0.045 0.526 0.181 = 192 981 46 213 259 #TP,TN,FP,FN,ERR n1432 m=mko R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3552  0.471 0.951 0.049 0.529 0.182 = 186 986 51 209 260 #TP,TN,FP,FN,ERR n1432 m=mmt R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3553  0.446 0.972 0.028 0.554 0.175 = 178 1004 29 221 250 #TP,TN,FP,FN,ERR n1432 m=mnh R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3554  0.431 0.966 0.034 0.569 0.183 = 172 998 35 227 262 #TP,TN,FP,FN,ERR n1432 m=mym R0.8:0.6@0.4:0.2 RX0 mbas2:40:1.6:1 N100
3555  0.462 0.960 0.040 0.538 0.182 #mean TP TN FP FN ERRkuro@kurolab-VB:~/sotu/2017/can2b$
3556  EOF
3557  cat > tmp/SV-R86.dat <<EOF
3558  0.480 0.956 0.044 0.520 0.186 = 205 961 44 222 266 #TP,TN,FP,FN,ERR n1432 m=fhs R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3559  0.460 0.969 0.031 0.540 0.169 = 179 1011 32 210 242 #TP,TN,FP,FN,ERR n1432 m=fms R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3560  0.434 0.972 0.028 0.566 0.196 = 193 959 28 252 280 #TP,TN,FP,FN,ERR n1432 m=mkk R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3561  0.466 0.961 0.039 0.534 0.182 = 192 980 40 220 260 #TP,TN,FP,FN,ERR n1432 m=mko R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3562  0.479 0.962 0.038 0.521 0.168 = 185 1006 40 201 241 #TP,TN,FP,FN,ERR n1432 m=mmt R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3563  0.459 0.952 0.048 0.541 0.186 = 184 981 50 217 267 #TP,TN,FP,FN,ERR n1432 m=mnh R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3564  0.408 0.971 0.029 0.592 0.188 = 165 998 30 239 269 #TP,TN,FP,FN,ERR n1432 m=mym R0.8:0.6 RX0 mbas2:40:1.6:1 N100
3565  0.455 0.963 0.037 0.545 0.182 #mean TP TN FP FN ERRkuro@kurolab-VB:~/sotu/2017/can2b$ kuro@kurolab-VB:~/sotu/2017/can2b$
3566
3567  d1=../12voicedata_ueki_all;
3568  dn=${d1}_n; mkdir -p $dn #normalized
3569  dm=${d1}_m; mkdir -p $dm #mixed signal
3570  dq=${d1}_q; mkdir -p $dq #pole new
3571  sX=-1;a=1.6;b=300;N=30;
3572  sX=-1;a=1.6;b=300;N=40; #for short time check
3573  sX=-1;a=1.6;b=40;N=40;
3574  mbas2:${b}:${a}:1
3575  L=1:2:3:4:5:6:7:8:9:10
3576  D=zero:ichi:ni:san:si:go:roku:nana:hachi:kyu
3577  S=fhs:fms:mkk:mko:mmt:mnh:mym
3578  R=1:0.8 #1:0.8:0.6 #1:0.8:0.6:0.4
3579  cmd="python oob4speakerdigit+sX_20180602.py -sp $S -tx $D -L $L -R $R -k 36 -mbas $mbas -dir $dq -s -1 -N ${N} -sX ${sX}";$cmd
3580  sX=-1;a=1.6;b=300;N=30;
3581  cat ../12voicedata_ueki_all_q/oob4sd-result.dat
3582  0.631 0.967 0.033 0.369 0.102 = 183 1070 36 107 143 #TP,TN,FP,FN,ERR n1396 m=fhs Rl:0.8 S:fhs:fms:mkk:mko:mnh:mym
3583  0.639 0.977 0.023 0.361 0.093 = 184 1082 26 104 130 #TP,TN,FP,FN,ERR n1396 m=fms Rl:0.8 S:fhs:fms:mkk:mko:mnh:mym
3584  0.625 0.976 0.024 0.375 0.100 = 190 1066 26 114 140 #TP,TN,FP,FN,ERR n1396 m=mkk Rl:0.8 S:fhs:fms:mk:mko:mnh:mym
3585  0.591 0.971 0.029 0.409 0.111 = 178 1063 32 123 155 #TP,TN,FP,FN,ERR n1396 m=mko Rl:0.8 S:fhs:fms:mk:mko:mnh:mym
3586  0.626 0.963 0.037 0.374 0.110 = 189 1053 41 113 154 #TP,TN,FP,FN,ERR n1396 m=mmt Rl:0.8 S:fhs:fms:mk:mko:mmt:mnh:mym
3587  0.568 0.964 0.036 0.432 0.123 = 175 1049 39 133 172 #TP,TN,FP,FN,ERR n1396 m=mnh Rl:0.8 S:fhs:fms:mk:mko:mnh:mym
```

```
3588  0.608 0.970 0.030 0.392 0.108 = 183 1062 33 118 151 #TP,TN,FP,FN,ERR n1396 m=mym Rl:0.8 S:fhs:fms:mk:mko:mmt:mnh:mym
3589  0.613 0.970 0.030 0.387 0.107 #mean TP TN FP FN ERR
3590  #cat ../12voicedata_ueki_all_q/oob4sd-result.dat|awk 'BEGIN{n=0:TP=TN=FP=FN=ERR=0}{n++;TP+=$1;TN+=$2;FP+=$3;FN+=$4;ERR+=$5}END{printf("%.3f %.3f %.3f %.3f %.3f #mean TP TN FP FN ERR\n",TP/n,TN/n,FP/n,FN/n,ERR/n)}'
3591
3592  cat ../12voicedata_ueki_all_q/oob4sd-result.dat
3593
3594  0.970 0.982 0.018 0.030 0.020 = 96 588 11 3 14 #TP,TN,FP,FN,ERR n698 m=fhs R1 S:fhs:mkk:mko:mmt:mnh:mym
3595  0.950 0.983 0.017 0.050 0.021 = 95 588 10 5 15 #TP,TN,FP,FN,ERR n698 m=fms R1 S:fhs:mkk:mko:mmt:mnh:mym
3596  0.920 0.973 0.027 0.080 0.034 = 92 582 16 8 24 #TP,TN,FP,FN,ERR n698 m=mkk R1 S:fhs:mkk:mko:mmt:mnh:mym
3597  0.950 0.977 0.023 0.050 0.027 = 95 584 14 5 19 #TP,TN,FP,FN,ERR n698 m=mko R1 S:fhs:mkk:mko:mmt:mnh:mym
3598  0.980 0.973 0.027 0.020 0.026 = 97 583 16 2 18 #TP,TN,FP,FN,ERR n698 m=mmt R1 S:fhs:mkk:mko:mmt:mnh:mym
3599  0.940 0.975 0.025 0.060 0.030 = 94 583 15 6 21 #TP,TN,FP,FN,ERR n698 m=mnh R1 S:fhs:mkk:mko:mmt:mnh:mym
3600  0.950 0.957 0.043 0.050 0.044 = 95 572 26 5 31 #TP,TN,FP,FN,ERR n698 m=mym R1 S:fhs:mkk:mko:mmt:mnh:mym
3601
3602  0.497 0.976 0.024 0.503 0.155 = 95 495 12 96 108 #TP,TN,FP,FN,ERR n698 m=fhs R0.8 S:fhs:fms:mko:mmt:mnh:mym
3603  0.479 0.969 0.031 0.521 0.163 = 90 494 16 98 114 #TP,TN,FP,FN,ERR n698 m=fms R0.8 S:fhs:fms:mko:mmt:mnh:mym
3604  0.461 0.980 0.020 0.539 0.172 = 94 484 10 110 120 #TP,TN,FP,FN,ERR n698 m=mkk R0.8 S:fhs:fms:mko:mmt:mnh:mym
3605  0.463 0.958 0.042 0.537 0.185 = 93 476 21 108 129 #TP,TN,FP,FN,ERR n698 m=mko R0.8 S:fhs:fms:mko:mmt:mnh:mym
3606  0.443 0.982 0.018 0.557 0.175 = 90 486 9 113 122 #TP,TN,FP,FN,ERR n698 m=mmt R0.8 S:fhs:fms:mko:mmt:mnh:mym
3607  0.433 0.945 0.055 0.567 0.208 = 90 463 27 118 145 #TP,TN,FP,FN,ERR n698 m=mnh R0.8 S:fhs:fms:mko:mmt:mnh:mym
3608  0.488 0.948 0.052 0.512 0.185 = 98 471 26 103 129 #TP,TN,FP,FN,ERR n698 m=mym R0.8 S:fhs:fms:mko:mmt:mnh:mym
3609
3610  0.480 0.968 0.032 0.520 0.172 = 96 482 16 104 120 #TP,TN,FP,FN,ERR n698 m=fhs R0.6 S:fhs:fms:mkk:mmt:mnh:mym
3611  0.483 0.958 0.042 0.517 0.179 = 97 476 21 104 125 #TP,TN,FP,FN,ERR n698 m=fms R0.6 S:fhs:fms:mkk:mmt:mnh:mym
3612  0.420 0.951 0.049 0.580 0.205 = 86 469 24 119 143 #TP,TN,FP,FN,ERR n698 m=mko R0.6 S:fhs:fms:mkk:mk:mnh:mym
3613  0.488 0.949 0.051 0.512 0.191 = 103 462 25 108 133 #TP,TN,FP,FN,ERR n698 m=mkk R0.6 S:fhs:mkk:nk:mmt:mnh:mym
3614  0.514 0.940 0.060 0.486 0.172 = 94 484 31 89 120 #TP,TN,FP,FN,ERR n698 m=mmt R0.6 S:fhs:fms:mkk:mmt:mnh:mym
3615  0.477 0.954 0.046 0.523 0.178 = 92 482 23 101 124 #TP,TN,FP,FN,ERR n698 m=mnh R0.6 S:fhs:fms:mkk:mmt:mnh:mym
3616  0.414 0.935 0.065 0.586 0.216 = 84 463 32 119 151 #TP,TN,FP,FN,ERR n698 m=mym R0.6 S:fhs:fms:mkk:nk:mmt:mnh:mym
3617
3618  0.455 0.944 0.056 0.545 0.198 = 92 468 28 110 138 #TP,TN,FP,FN,ERR n698 m=fhs R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3619  0.411 0.946 0.054 0.589 0.209 = 83 469 27 119 146 #TP,TN,FP,FN,ERR n698 m=fms R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3620  0.426 0.962 0.038 0.574 0.195 = 87 475 19 117 136 #TP,TN,FP,FN,ERR n698 m=mkk R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3621  0.382 0.946 0.054 0.618 0.232 = 84 452 26 136 162 #TP,TN,FP,FN,ERR n698 m=mko R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3622  0.468 0.951 0.049 0.532 0.179 = 88 485 25 100 125 #TP,TN,FP,FN,ERR n698 m=mmt R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3623  0.411 0.967 0.033 0.589 0.185 = 78 491 17 112 129 #TP,TN,FP,FN,ERR n698 m=mnh R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3624  0.411 0.955 0.045 0.589 0.193 = 78 485 23 112 135 #TP,TN,FP,FN,ERR n698 m=mym R0.4 S:fhs:fms:mkk:mko:mmt:mnh:mym
3625
3626  0.460 0.942 0.058 0.540 0.196 = 92 469 29 108 137 #TP,TN,FP,FN,ERR n698 m=fhs R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3627  0.411 0.928 0.072 0.589 0.226 = 86 454 35 123 158 #TP,TN,FP,FN,ERR n698 m=fms R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3628  0.416 0.948 0.052 0.584 0.206 = 84 470 26 118 144 #TP,TN,FP,FN,ERR n698 m=mkk R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3629  0.441 0.935 0.065 0.559 0.209 = 90 462 32 114 146 #TP,TN,FP,FN,ERR n698 m=mko R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3630  0.516 0.931 0.069 0.484 0.183 = 99 471 35 93 128 #TP,TN,FP,FN,ERR n698 m=mmt R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3631  0.455 0.945 0.055 0.545 0.189 = 87 479 28 104 132 #TP,TN,FP,FN,ERR n698 m=mnh R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
3632  0.460 0.936 0.064 0.540 0.199 = 91 468 32 107 139 #TP,TN,FP,FN,ERR n698 m=mym R0.2 S:fhs:fms:mkk:mko:mmt:mnh:mym
```

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:mmt:mmh:mym
3633
3634  0.628 0.988 0.012 0.372 0.087 = 182 1093 13 108 121 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3635  0.639 0.980 0.020 0.361 0.090 = 184 1086 22 104 126 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3636  0.599 0.985 0.015 0.401 0.099 = 182 1076 16 122 138 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3637  0.598 0.966 0.034 0.402 0.113 = 180 1058 37 121 158 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3638  0.606 0.985 0.015 0.394 0.097 = 183 1078 16 119 135 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3639  0.568 0.969 0.031 0.432 0.120 = 175 1054 34 133 167 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3640  0.618 0.982 0.018 0.382 0.097 = 186 1075 20 115 135 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 S:fhs:fms:mk
k:mkco:mmt:mmh:mym
3641  python oob4speakerdigit+sX_20180602.py -sp fhs:fms:mkk:mko:mmt:mmh:mym -tx zero:ichi:ni:san:si:go:ro
ku:nana:hachi:kyu -L 1:1:2:3:4:5:6:7:8:9:10 -R 1:0.8:0.6 -k 36 -mbas 2:300:1.6:1 -dir ../l2voicedata_ueki_all_
q -s -1 -N 30 -sX -1
3642  0.516 0.979 0.021 0.484 0.129 = 253 1571 33 237 270 #TP,TN,FP,FN,ERR n2094 m=fhs R1:0.8:0.6 S:fhs:fm
3643  0.495 0.982 0.018 0.505 0.132 = 242 1576 29 247 276 #TP,TN,FP,FN,ERR n2094 m=fms R1:0.8:0.6 S:fhs:fm
3644  0.499 0.982 0.018 0.501 0.136 = 254 1556 29 255 284 #TP,TN,FP,FN,ERR n2094 m=mkk R1:0.8:0.6 S:fhs:fm
3645  0.475 0.979 0.021 0.525 0.145 = 243 1548 34 269 303 #TP,TN,FP,FN,ERR n2094 m=mko R1:0.8:0.6 S:fhs:fm
3646  0.499 0.988 0.012 0.501 0.125 = 242 1590 19 243 262 #TP,TN,FP,FN,ERR n2094 m=mmt R1:0.8:0.6 S:fhs:fm
3647  0.467 0.976 0.024 0.533 0.146 = 234 1554 39 267 306 #TP,TN,FP,FN,ERR n2094 m=mmh R1:0.8:0.6 S:fhs:fm
3648  0.472 0.976 0.024 0.528 0.145 = 238 1552 38 266 304 #TP,TN,FP,FN,ERR n2094 m=mym R1:0.8:0.6 S:fhs:fm
3649  ########################################
3650  ########################################
3651  ########################################
3652  0.607 0.981 0.019 0.393 0.097 = 176 1085 21 114 135 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.0:1 N100
3653  0.594 0.978 0.022 0.406 0.101 = 171 1084 24 117 141 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.0:1 N100
3654  0.582 0.973 0.027 0.418 0.112 = 177 1063 29 127 156 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.0:1 N100
3655  0.591 0.972 0.028 0.409 0.110 = 178 1064 31 123 154 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.0:1 N100
3656  0.596 0.969 0.031 0.404 0.112 = 180 1060 34 122 156 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:1.0:1 N100
3657  0.532 0.965 0.035 0.468 0.130 = 164 1050 38 144 182 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:1.0:1 N100
3658  0.591 0.969 0.031 0.409 0.112 = 178 1061 34 123 157 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.0:1 N100
3659  0.585 0.972 0.028 0.415 0.111 #mean TP TN FP FN ERR
3660  0.631 0.976 0.024 0.369 0.095 = 183 1080 26 107 133 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:60
:1.6:1 N100
3661  0.594 0.985 0.015 0.372 0.089 = 181 1091 17 107 124 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:60
:1.6:1 N100
3662  0.628 0.989 0.011 0.352 0.085 = 197 1080 12 107 119 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:60
:1.6:1 N100
3663  0.648 0.978 0.022 0.382 0.100 = 186 1071 24 115 139 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:60
:1.6:1 N100
3664  0.618 0.979 0.021 0.364 0.095 = 192 1071 23 110 133 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:60
:1.6:1 N100
3665  0.636 0.980 0.020 0.403 0.105 = 184 1066 22 124 146 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:60
:1.6:1 N100
3666  0.597 0.980 0.020 0.359 0.097 = 193 1067 28 108 136 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:60
:1.6:1 N100
3667  0.641 0.974 0.026 0.372 0.095 #mean TP TN FP FN ERR
3668  0.628 0.980 0.020            #mean TP TN FP FN ERR
3669
3670  0.590 0.969 0.031 0.410 0.110 = 171 1072 34 119 153 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:0.7:1 N100
3671  0.556 0.977 0.023 0.444 0.110 = 160 1082 26 128 154 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:0.7:1 N100
3672  0.569 0.963 0.037 0.431 0.122 = 173 1052 40 131 171 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:0.7:1 N100
3673  0.581 0.957 0.043 0.419 0.124 = 175 1048 47 126 173 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:0.7:1 N100
3674  0.576 0.962 0.038 0.424 0.122 = 174 1052 42 128 170 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:0.7:1 N100
3675  0.500 0.946 0.054 0.500 0.153 = 154 1029 59 154 213 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:0.7:1 N100
3676  0.585 0.940 0.060 0.415 0.137 = 176 1029 66 125 191 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:0.7:1 N100
```

```
3677  0.565 0.959 0.041 0.435 0.125 #mean TP TN FP FN ERR
3678
3679  0.555 0.971 0.029 0.445 0.127 = 272 1557 47 218 265 #TP,TN,FP,FN,ERR n2094 m=fhs R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3680  0.577 0.970 0.030 0.423 0.122 = 282 1557 48 207 255 #TP,TN,FP,FN,ERR n2094 m=fms R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3681  0.558 0.974 0.026 0.442 0.127 = 284 1544 41 225 266 #TP,TN,FP,FN,ERR n2094 m=mkk R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3682  0.588 0.962 0.038 0.412 0.129 = 301 1522 60 211 271 #TP,TN,FP,FN,ERR n2094 m=mko R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3683  0.577 0.970 0.030 0.423 0.121 = 280 1561 48 205 253 #TP,TN,FP,FN,ERR n2094 m=mmt R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3684  0.545 0.970 0.030 0.455 0.132 = 273 1545 48 228 276 #TP,TN,FP,FN,ERR n2094 m=mmh R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3685  0.563 0.974 0.026 0.437 0.125 = 284 1549 41 220 261 #TP,TN,FP,FN,ERR n2094 m=mym R1:0.8:0.6 RX0 mbas
2:60:1.6:1 N100
3686  0.566 0.970 0.030 0.434 0.126 #mean TP TN FP FN ERR
3687
3688  0.652 0.984 0.016 0.348 0.085 = 189 1088 18 101 119 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.6:1 N200
3689  0.642 0.991 0.009 0.358 0.081 = 185 1098 10 103 113 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1 N200
3690  0.622 0.989 0.011 0.378 0.091 = 189 1080 12 115 127 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.6:1 N200
3691  0.638 0.981 0.019 0.362 0.093 = 192 1074 21 109 130 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1 N200
3692  0.609 0.992 0.008 0.391 0.091 = 184 1085 9 118 127 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40:
1.6:1 N200
3693  0.627 0.991 0.009 0.373 0.090 = 193 1078 10 115 125 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:1.6:1 N200
3694  0.615 0.989 0.011 0.385 0.092 = 185 1083 12 116 128 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1 N200
3695  0.629 0.988 0.012 0.371 0.089 #mean TP TN FP FN ERR0
3696  0.652 0.976 0.024 0.348 0.091 = 189 1080 26 101 127 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.6:1 N80
3697  0.642 0.977 0.023 0.358 0.092 = 185 1083 25 103 128 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1 N80
3698  0.609 0.970 0.030 0.391 0.109 = 185 1059 33 119 152 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.6:1 N80
3699  0.628 0.974 0.026 0.372 0.101 = 189 1066 29 112 141 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1 N80
3700  0.616 0.984 0.016 0.384 0.096 = 186 1076 18 116 134 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:1.6:1 N80
3701  0.620 0.972 0.028 0.380 0.105 = 191 1058 30 117 147 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:1.6:1 N80
3702  0.605 0.958 0.042 0.395 0.118 = 182 1049 46 119 165 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1 N80
3703  0.625 0.973 0.027 0.375 0.102 #mean TP TN FP FN ERR
3704  0.655 0.982 0.018 0.345 0.086 = 190 1086 20 101 120 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.6:1 N40
3705  0.635 0.986 0.014 0.365 0.086 = 183 1093 15 105 120 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1 N40
3706  0.625 0.984 0.016 0.375 0.095 = 190 1074 18 114 132 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.6:1 N40
3707  0.571 0.975 0.025 0.429 0.112 = 172 1068 27 129 156 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1 N40
3708  0.596 0.990 0.010 0.404 0.095 = 180 1083 11 122 133 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:1.6:1 N40
3709  0.584 0.967 0.033 0.416 0.117 = 180 1052 36 128 164 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:1.6:1 N40
3710  0.568 0.980 0.020 0.432 0.109 = 171 1073 22 130 152 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1 N40
3711  0.605 0.981 0.019 0.395 0.100 #mean TP TN FP FN ERR
3712
3713  0.652 0.976 0.024 0.348 0.091 = 189 1080 26 101 127 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.6:1
3714  0.642 0.977 0.023 0.358 0.092 = 185 1083 25 103 128 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1
3715  0.609 0.970 0.030 0.391 0.109 = 185 1059 33 119 152 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
:1.6:1
3716  0.628 0.974 0.026 0.372 0.101 = 189 1066 29 112 141 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1
3717  0.616 0.984 0.016 0.384 0.096 = 186 1076 18 116 134 #TP,TN,FP,FN,ERR n1396 m=mmt R1:0.8 RX0 mbas2:40
:1.6:1
3718  0.620 0.972 0.028 0.380 0.105 = 191 1058 30 117 147 #TP,TN,FP,FN,ERR n1396 m=mmh R1:0.8 RX0 mbas2:40
:1.6:1
3719  0.605 0.958 0.042 0.395 0.118 = 182 1049 46 119 165 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1
3720  0.625 0.973 0.027 0.375 0.102 #mean TP TN FP FN ERR
3721  cat ../l2voicedata_ueki_all_q/speaker-verif-result.dat| awk 'BEGIN{n=0;TP=TN=FP=FN=ERR=0}{n++;TP+=$1;
TN+=$2;FP+=$3;FN+=$4;ERR+=$5}END{printf("%.3f %.3f %.3f %.3f %.3f #mean TP TN FP FN ERR\n",TP/n,TN/n,FP/n,FN
/n,ERR/n)}'
```

```
3722  0.648 0.985 0.015 0.352 0.085 = 188 1089 17 102 119 #TP,TN,FP,FN,ERR n1396 m=fhs R1:0.8 RX0 mbas2:40
:1.6:1 N300
3723  0.639 0.990 0.010 0.361 0.082 = 184 1097 11 104 115 #TP,TN,FP,FN,ERR n1396 m=fms R1:0.8 RX0 mbas2:40
:1.6:1 N300
3724  0.628 0.993 0.007 0.372 0.087 = 191 1084 8 113 121 #TP,TN,FP,FN,ERR n1396 m=mkk R1:0.8 RX0 mbas2:40
1.6:1 N300
3725
:1.6:1 N300
3726  0.635 0.987 0.013 0.365 0.089 = 191 1081 14 110 124 #TP,TN,FP,FN,ERR n1396 m=mko R1:0.8 RX0 mbas2:40
:1.6:1 N300
3727  0.626 0.990 0.010 0.374 0.089 = 189 1083 11 113 124 #TP,TN,FP,FN,ERR n1396 m=mnt R1:0.8 RX0 mbas2:40
:1.6:1 N300
3728  0.604 0.989 0.011 0.396 0.096 = 186 1076 12 122 134 #TP,TN,FP,FN,ERR n1396 m=mnh R1:0.8 RX0 mbas2:40
:1.6:1 N300
3729  0.618 0.991 0.009 0.382 0.090 = 186 1085 10 115 125 #TP,TN,FP,FN,ERR n1396 m=mym R1:0.8 RX0 mbas2:40
:1.6:1 N300
3730  0.628 0.989 0.011 0.372 0.088 #mean TP TN FP FN ERR
3731  cat ../12voicedata_ueki_all_q/speaker-verif-result.dat #oob prediction of training data
3732  sX=-1:a=1.6:b=300:N=40:
3733
3734  0.939 0.987 0.013 0.061 0.020 = 46 295 4 3 7 #TP,TN,FP,FN,ERR n348 m=fhs R1 RX1
3735  0.940 0.977 0.023 0.060 0.029 = 47 291 7 3 10 #TP,TN,FP,FN,ERR n348 m=fms R1 RX1
3736  0.860 0.983 0.017 0.140 0.034 = 43 293 5 7 12 #TP,TN,FP,FN,ERR n348 m=mkk R1 RX1
3737  0.960 0.977 0.023 0.040 0.026 = 48 291 7 2 9 #TP,TN,FP,FN,ERR n348 m=mko R1 RX1
3738  0.878 0.987 0.013 0.122 0.029 = 43 295 4 6 10 #TP,TN,FP,FN,ERR n348 m=mnt R1 RX1
3739  0.860 0.990 0.010 0.140 0.029 = 43 295 3 7 10 #TP,TN,FP,FN,ERR n348 m=mnh R1 RX1
3740  0.880 0.970 0.030 0.120 0.043 = 44 289 9 6 15 #TP,TN,FP,FN,ERR n348 m=mym R1 RX1
3741  cat ../12voicedata_ueki_all_q/speaker-verif-result-X.dat #prediction of test data
3742  0.760 0.990 0.010 0.240 0.043 = 38 297 3 12 15 #TP,TN,FP,FN,ERR n350 m=fhs R1 RX1
3743  0.760 0.990 0.010 0.240 0.043 = 38 297 3 12 15 #TP,TN,FP,FN,ERR n350 m=fms R1 RX1
3744  0.680 0.960 0.040 0.320 0.080 = 34 288 12 16 28 #TP,TN,FP,FN,ERR n350 m=mkk R1 RX1
3745  0.560 0.953 0.047 0.440 0.103 = 28 286 14 22 36 #TP,TN,FP,FN,ERR n350 m=mko R1 RX1
3746  0.640 0.997 0.003 0.360 0.054 = 32 299 1 18 19 #TP,TN,FP,FN,ERR n350 m=mnt R1 RX1
3747  0.580 0.980 0.020 0.420 0.077 = 29 294 6 21 27 #TP,TN,FP,FN,ERR n350 m=mnh R1 RX1
3748  0.560 0.960 0.040 0.440 0.097 = 28 288 12 22 34 #TP,TN,FP,FN,ERR n350 m=mym R1 RX1
3749  sX=-1:a=1.6:b=300:N=40:
3750  cat ../12voicedata_ueki_all_q/speaker-verif-result.dat #oob prediction of training data
3751  0.939 0.987 0.013 0.061 0.020 = 46 295 4 3 7 #TP,TN,FP,FN,ERR n348 m=fhs R1 RX0.8
3752  0.940 0.977 0.023 0.060 0.029 = 47 291 7 3 10 #TP,TN,FP,FN,ERR n348 m=fms R1 RX0.8
3753  0.860 0.983 0.017 0.140 0.034 = 43 293 5 7 12 #TP,TN,FP,FN,ERR n348 m=mkk R1 RX0.8
3754  0.960 0.977 0.023 0.040 0.026 = 48 291 7 2 9 #TP,TN,FP,FN,ERR n348 m=mko R1 RX0.8
3755  0.878 0.987 0.013 0.122 0.029 = 43 295 4 6 10 #TP,TN,FP,FN,ERR n348 m=mnt R1 RX0.8
3756  0.860 0.990 0.010 0.140 0.029 = 43 295 3 7 10 #TP,TN,FP,FN,ERR n348 m=mnh R1 RX0.8
3757  0.880 0.970 0.030 0.120 0.043 = 44 289 9 6 15 #TP,TN,FP,FN,ERR n348 m=mym R1 RX0.8
3758  cat ../12voicedata_ueki_all_q/speaker-verif-result-X.dat #prediction of test data
3759  0.327 0.984 0.016 0.673 0.200 = 32 248 4 66 70 #TP,TN,FP,FN,ERR n350 m=fhs R1 RX0.8
3760  0.080 0.989 0.011 0.920 0.240 = 7 259 3 81 84 #TP,TN,FP,FN,ERR n350 m=fms R1 RX0.8
3761  0.309 0.996 0.004 0.691 0.220 = 34 239 1 76 77 #TP,TN,FP,FN,ERR n350 m=mkk R1 RX0.8
3762  0.324 0.938 0.062 0.676 0.251 = 35 227 15 73 88 #TP,TN,FP,FN,ERR n350 m=mko R1 RX0.8
3763  0.232 0.984 0.016 0.768 0.229 = 23 247 4 76 80 #TP,TN,FP,FN,ERR n350 m=mnt R1 RX0.8
3764  0.097 0.988 0.012 0.903 0.274 = 10 244 3 93 96 #TP,TN,FP,FN,ERR n350 m=mnh R1 RX0.8
3765  0.351 0.973 0.027 0.649 0.194 = 33 249 7 61 68 #TP,TN,FP,FN,ERR n350 m=mym R1 RX0.8
3766  sX=-1:a=1.6:b=40:N=40:
3767  cat ../12voicedata_ueki_all_q/speaker-verif-result.dat #oob prediction of training data
3768  0.939 0.987 0.013 0.061 0.020 = 46 295 4 3 7 #TP,TN,FP,FN,ERR n348 m=fhs R1 RX0.8
3769  0.940 0.977 0.023 0.060 0.029 = 47 291 7 3 10 #TP,TN,FP,FN,ERR n348 m=fms R1 RX0.8
3770  0.920 0.990 0.010 0.080 0.020 = 46 295 3 4 7 #TP,TN,FP,FN,ERR n348 m=mkk R1 RX0.8
3771  0.900 0.990 0.010 0.100 0.023 = 45 295 3 5 8 #TP,TN,FP,FN,ERR n348 m=mko R1 RX0.8
3772  0.939 0.990 0.010 0.061 0.020 = 47 293 3 3 6 #TP,TN,FP,FN,ERR n348 m=mnt R1 RX0.8
3773  0.960 0.973 0.027 0.040 0.029 = 48 290 8 2 10 #TP,TN,FP,FN,ERR n348 m=mnh R1 RX0.8
3774  0.880 0.990 0.010 0.120 0.026 = 44 295 3 6 9 #TP,TN,FP,FN,ERR n348 m=mym R1 RX0.8
3775  cat ../12voicedata_ueki_all_q/speaker-verif-result-X.dat #prediction of test data
3776  0.357 0.988 0.012 0.643 0.189 = 35 249 3 63 66 #TP,TN,FP,FN,ERR n350 m=fhs R1 RX0.8
3777  0.091 0.992 0.008 0.909 0.234 = 8 260 2 80 82 #TP,TN,FP,FN,ERR n350 m=fms R1 RX0.8
3778  0.300 0.930 0.070 0.700 0.226 = 33 238 2 77 79 #TP,TN,FP,FN,ERR n350 m=mkk R1 RX0.8
3779  0.333 0.930 0.070 0.667 0.254 = 36 225 17 72 89 #TP,TN,FP,FN,ERR n350 m=mko R1 RX0.8
3780  0.242 0.988 0.012 0.758 0.223 = 24 248 3 75 78 #TP,TN,FP,FN,ERR n350 m=mnt R1 RX0.8
3781  0.107 0.893 0.043 0.893 0.274 = 11 243 4 92 96 #TP,TN,FP,FN,ERR n350 m=mnh R1 RX0.8
3782  0.309 0.957 0.043 0.691 0.217 = 29 245 11 65 76 #TP,TN,FP,FN,ERR n350 m=mym R1 RX0.8
3783  0.458 0.973 0.027 0.542 0.175 #mean TP TN FP FN ERR
3784  cat ../12voicedata_ueki_all_q/speaker-verif-result-X.dat #prediction of test data
3785  0.527 0.961 0.039 0.473 0.155 = 49 245 10 44 54 #TP,TN,FP,FN,ERR n348 m=fhs R0.8 RX0.8
3786  0.480 0.988 0.012 0.520 0.158 = 48 245 3 52 55 #TP,TN,FP,FN,ERR n348 m=fms R0.8 RX0.8
3787  0.500 0.969 0.031 0.500 0.158 = 47 246 8 47 55 #TP,TN,FP,FN,ERR n348 m=mkk R0.8 RX0.8
3788  0.484 0.949 0.051 0.516 0.175 = 45 242 13 48 61 #TP,TN,FP,FN,ERR n348 m=mko R0.8 RX0.8
3789  0.433 0.992 0.008 0.567 0.175 = 45 242 2 59 61 #TP,TN,FP,FN,ERR n348 m=mnt R0.8 RX0.8
3790  0.410 0.975 0.025 0.590 0.195 = 43 237 6 62 68 #TP,TN,FP,FN,ERR n348 m=mnh R0.8 RX0.8
3791  0.374 0.979 0.021 0.626 0.207 = 40 236 5 67 72 #TP,TN,FP,FN,ERR n348 m=mym R0.8 RX0.8
3792  0.458 0.973 0.027 0.542 0.175 #mean TP TN FP FN ERR
3793  cat ../12voicedata_ueki_all_q/speaker-verif-result-X.dat #prediction of test data
3794  0.245 0.960 0.040 0.755 0.240 = 24 242 10 74 84 #TP,TN,FP,FN,ERR n350 m=fhs R0.8 RX0.8
3795  0.193 0.973 0.027 0.807 0.223 = 17 255 7 71 78 #TP,TN,FP,FN,ERR n350 m=fms R0.8 RX0.8
3796  0.218 0.975 0.025 0.782 0.263 = 24 234 6 86 92 #TP,TN,FP,FN,ERR n350 m=mkk R0.8 RX0.8
```

```
3797  0.241 0.963 0.037 0.759 0.260 = 26 233 9 82 91 #TP,TN,FP,FN,ERR n350 m=mko R0.8 RX0.8
3798  0.212 0.984 0.016 0.788 0.234 = 21 247 4 78 82 #TP,TN,FP,FN,ERR n350 m=mnt R0.8 RX0.8
3799  0.107 0.984 0.016 0.893 0.274 = 11 243 4 92 96 #TP,TN,FP,FN,ERR n350 m=mnh R0.8 RX0.8
3800  0.191 0.965 0.035 0.809 0.243 = 18 247 9 76 85 #TP,TN,FP,FN,ERR n350 m=mym R0.8 RX0.8
3801  0.201 0.972 0.028 0.799 0.248 #mean TP TN FP FN ERR
3802  cat ../12voicedata_ueki_all_q/speaker-verif-result.dat #oob prediction of training data
3803  0.641 0.971 0.029 0.359 0.096 = 91 538 16 51 67 #TP,TN,FP,FN,ERR n696 m=fhs R1:0.8 RX1:0.8
3804  0.635 0.980 0.020 0.407 0.103 = 89 535 11 61 72 #TP,TN,FP,FN,ERR n696 m=fms R1:0.8 RX1:0.8
3805  0.593 0.984 0.016 0.361 0.088 = 92 543 9 52 61 #TP,TN,FP,FN,ERR n696 m=mkk R1:0.8 RX1:0.8
3806  0.639 0.960 0.040 0.322 0.098 = 97 531 22 46 68 #TP,TN,FP,FN,ERR n696 m=mko R1:0.8 RX1:0.8
3807  0.678 0.972 0.028 0.392 0.108 = 93 528 15 60 75 #TP,TN,FP,FN,ERR n696 m=mnt R1:0.8 RX1:0.8
3808  0.608 0.974 0.026 0.477 0.126 = 81 527 14 74 88 #TP,TN,FP,FN,ERR n696 m=mnh R1:0.8 RX1:0.8
3809  0.523 0.963 0.037 0.408 0.121 = 93 519 20 64 84 #TP,TN,FP,FN,ERR n696 m=mym R1:0.8 RX1:0.8
3810  0.592 0.972 0.028 0.389 0.106 #mean TP TN FP FN ERR
3811
3812  0.439 0.980 0.020 0.561 0.134 = 65 541 11 83 94 #TP,TN,FP,FN,ERR n700 m=fhs R1:0.8 RX1:0.8
3813  0.428 0.975 0.025 0.572 0.133 = 59 548 14 79 93 #TP,TN,FP,FN,ERR n700 m=fms R1:0.8 RX1:0.8
3814  0.425 0.985 0.015 0.575 0.143 = 68 532 8 92 100 #TP,TN,FP,FN,ERR n700 m=mkk R1:0.8 RX1:0.8
3815  0.418 0.941 0.059 0.582 0.177 = 66 510 32 92 124 #TP,TN,FP,FN,ERR n700 m=mko R1:0.8 RX1:0.8
3816  0.416 0.989 0.011 0.584 0.133 = 62 545 6 87 93 #TP,TN,FP,FN,ERR n700 m=mnt R1:0.8 RX1:0.8
3817  0.281 0.980 0.020 0.719 0.173 = 43 536 11 110 121 #TP,TN,FP,FN,ERR n700 m=mnh R1:0.8 RX1:0.8
3818  0.410 0.971 0.029 0.590 0.144 = 59 540 16 85 101 #TP,TN,FP,FN,ERR n700 m=mym R1:0.8 RX1:0.8
3819  0.402 0.974 0.026 0.598 0.148 #mean TP TN FP FN ERR
3820
3821
3822  #search lack
3823
3824  #ls ${dq}/*R0.6* > ../wc.txt
3825  #for ((n=10;n<700;n+100)); do
3826  #  echo -n "L$n "; cat ../wc.txt|head -$n |tail -1
3827  #done
3828  #
3829  #wc ${dq}/*R0.8* > ../wc.txt
3830  #for ((n=10;n<700;n+100)); do
3831  #  echo -n "L$n "; cat ../wc.txt|head -$n |tail -1
3832  #done
3833  #rm ../wc.txt
3834
3835  #L10  1  36  101 ../12voicedata_ueki_all_q/fhs-go9-mko-kyu10-R0.8-p.dat
3836  #L110 1  36  102 ../12voicedata_ueki_all_q/fms-hachi1-mnt-zero10-R0.8-p.dat no ../12voicedata_
ueki_all_q/fhs-hachi5
3837  #L210 1  36  100 ../12voicedata_ueki_all_q/mkk-hachi1-fms-kyu4-R0.8-p.dat
3838  #L310 1  36  101 ../12voicedata_ueki_all_q/mko-hachi1-mnh-kyu3-R0.8-p.dat
3839  #L410 1  36  100 ../12voicedata_ueki_all_q/mnt-hachi1-mym-go5-R0.8-p.dat
3840  #L510 1  36  98  ../12voicedata_ueki_all_q/mnh-hachi10-mkk-san10-R0.8-p.dat
3841  #L610 1  36  105 ../12voicedata_ueki_all_q/mym-hachi10-mkk-si3-R0.8-p.dat
3842  #
3843  #L10  1  36  102 ../12voicedata_ueki_all_q/fhs-go9-fms-si3-R0.6-p.dat
3844  #L110 1  36  101 ../12voicedata_ueki_all_q/fms-hachi1-fhs-kyu10-R0.6-p.dat
3845  #L210 1  36  99  ../12voicedata_ueki_all_q/mkk-hachi10-fhs-si1-R0.6-p.dat no ../12voicedata_
ueki_all_q/fms-zero9 at L198
3846  #L310 1  36  102 ../12voicedata_ueki_all_q/mko-hachi10-mnt-go10-R0.6-p.dat
3847  #L410 1  36  104 ../12voicedata_ueki_all_q/mnt-hachi10-mkk-ni3-R0.6-p.dat
3848  #L510 1  36  104 ../12voicedata_ueki_all_q/mnh-hachi2-mko-si8-R0.6-p.dat
3849  #L610 1  36  99  ../12voicedata_ueki_all_q/mym-hachi2-mnh-san9-R0.6-p.dat
3850  #
3851  #wc ${dq}/fhs*R0.6* ${dq}/fhs*R0.8*
3852  ##nohup sh/mkq.sh &
3853  ##nohup sh/mkq2.sh &
3854  #( (RANDOM % n) + 1 ))#0-32767
3855  ##
3856  #export LANG=C
3857  #d1=../12voicedata_ueki_all;
3858  #dn=${dl}_n; mkdir -p $dn #normalized
3859  #dm=${dl}_m; mkdir -p $dm #mixed signal
3860  #dp=${dl}_p; mkdir -p $dp #pole
3861  #S=(fhs fms mkk mko mnt mnh mym)
3862  #L=(1 2 3 4 5 6 7 8 9)
3863  #D=(zero ichi ni san si go roku nana hachi kyu)
3864  #R=(0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9)
3865  ##
3866  ##S=(fhs mkk)
3867  ##L=(9 5)
3868  ##D=(zero)
3869  #date
3870  #for s in fhs; do
3871  #  for d in kyu; do
3872  #    for l in 9; do #for l in `seq 1 9` ; do # for l in 1 2 3 4 5 6 7 8 9; do
3873  #      for r in 0.5; do
3874  #        for s2 in mkk; do
3875  #          if [ "$s2" != "$s" ]; then
3876  #            for d in san; do
```

```
3877 #             for l2 in 5; do
3878 #               sm=${s}-${d}${1}-${s2}-${d2}${12}-R${r}
3879 #        cmd="python speechmix.py -y0 $dn/${s}-${d}${1}.dat -y1 $dn/${s2}-${d2}${12}.dat -r $r"
3880 #        echo "$cmd>$dm/${sm}.dat'; $cmd > $dm/${sm}.dat
3881 #        cmd1="poledistribv2 st:${sm} N:24 k:8 m:poles4 dir:${dm} rsa:2:0.7:1:20 DiffMode:0 tt:0:400 T
:100 DISP:1"
3882 #        echo "$cmd1"; $cmd1
3883 #        cmd2="mkpoleptv2 st:$sm k:8 Np:24 dir:tmp dir2:${dm} dout:${dp} rsa:2:20 tt:0:400 nt:18 nr:2
r_max:2 DISP:1"
3884 #        echo "$cmd2"; $cmd2
3885 #        cmd="cp tmp/q.dat "
3886 #        make data-clean
3887 #          done;
3888 #        done;
3889 #      fi
3890 #      done;
3891 #    done;
3892 #  done;
3893 #done;
3894 #date
3895 #date
3896
3897 #20140502 at mesaho
3898 pair.datに基準となるデータとランダムに選んだデータの
3899 ペアを書き込んでいる。
3900 0.5～0.9のフォルダに基準となるデータをa=0.5～0.9倍したデータと
3901 ランダムに選んだデータを1-a倍して足し合わせたデータをそれぞれ入れている。
3902 ##############################
3903 ############tagomori's PC from Tagomori, modified by Kurogi
3904 #(2)実行コマンド ##############################Execute from here
3905 dir1=../12voicedata/allpole
3906 make make data-clean
3907 sx=-1:a=1.6:b=300:N=40:
3908 sx=-1:a=1.6:b=300:N=30:
3909 mbas=2:${b}:${a}:1
3910 ############tagomori's PC
3911 dir1=../12voicedata/allpole
3912 dir2=../0.9/allpole
3913 ############kurogi's PC
3914 dir1=../../2012/12voicedata/allpole
3915 dir2=/media/sf_D_DRIVE/cdata/kurolab/data/20180206onsei/0.9/allpole
3916 #dir2=../../2012/12voicedata/allpole_fake
3917 ############for simply check the program with two speakers
3918 cmd="oob4speakerdigit+sX_2018 sp:fhs:fms tx:zero:ichi ntxi:9 k:36 mbas:$mbas dir:$dir1 dir2:$dir2 s:
-1 N:${N} sX:${sX}"
3919 ############for final check of all speakers
3920 cmd="oob4speakerdigit+sX_2018 sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:si:go:roku:nana:hac
hi:kyu ntxi:9 k:36 mbas:2:${b}:${a}:1 dir:$dir1 dir2:$dir2 s:-1 N:${N} sX:${sX}"
3921 cmd="oob4speakerdigit+sX_2018 sp:fhs:fms tx:zero:ichi ntxi:9 k:36 mbas:2:${b}:${a}:1 dir:$dir1 dir2:$dir2 s:-1 N:${N} sX:${sX}"
3922 cmd1="cat ${dir1}/oob4s:-1N${N}mbas${mbas}sX${sX}.ystat" ##cmd1="cat ${dir1}/oob4s:-1N${N}mbas2:300:
1.6:1sX-1.ystat"
3923 echo $cmd1;$cmd1
3924 ##############################
3925 ##############################
3926 #(3) 結果例 ##############################Execute from here
3927 ##############################
3928 ##############################
3929 ##############################
3930 ##############################
3931 20171124
3932 #(0) 12voicedataの音声ファイルはkurolab2の植木君のディレクトリにあった
3933 #    http://kuro/sotu/2012/12voicedata_ueki/12voicedata/zero
3934 #(1) 1,2,3,...の極を抽出する
3935 make
3936 sp=fhs:mkk:mko:mmt:mnh:mym
3937 tx=zero:ichi:ni:san:si:go:roku:sichi:hachi:kyu:rei:yon:nana:ku
3938 dir=../../2012/12voicedata/zero ##←自々のPCのフォルダの構造に合わせて設定すべし！
3939 dir=/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/12voicedata/zero
3940 cmd="poledistribv2 sp:${sp} tx:${tx} N:24 k:8 m:poles4 dir:${dir} rsa:2:0.7:1:20 DISP:1 DiffMode:0 t
t:0:400 T:100"
3941 T:100"
3942 #20180531 short exp
3943 #poledistribv2 sp:fhs tx:zero1 N:24 k:8 m:poles4 dir:/media/sf_C_DRIVE/cdata/kurolab/data/12voicedat
a_ueki/12voicedata/zero rsa:2:0.7:1:20 DISP:1 DiffMode:0 tt:0:400 T:100
3944 nr:2 r_max:2"
3945 $cmd
3946 #(2) この極配置をベクトル化する
3947 dirp=${dir}p
3948 cmd="mkpoleptv2 sp:${sp} tx:${tx} k:8 Np:24 dir:tmp dir2:${dir} data:${dir} data:${dirp} rsa:2:0.7:1:20"
3949 $cmd
3950 #short exp
```

```
3951 #mkpoleptv2 sp:fhs tx:zero1 k:8 Np:24 dir:tmp dir2:/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_
ueki/12voicedata/zero data:/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_ueki/12voicedata/zerop rsa:2:20
tt:0:400 nt:18 nr:2 r_max:2
3952 #mkpoleptv2 calles
3953 #mkpoleptv1 sp:fhs tx:zero1 k:8 N:24 dir:tmp data:/media/sf_C_DRIVE/cdata/kurolab/data/12voicedata_u
eki/12voicedata/zero rsa:2:20 tt:0:3170 nt:18 nr:2 r_max:2.000000 > /dev/null
3954
3955 (4) dirpの -p.datファイルをallpoleディレクトリに保存
3956 cp ${dirp}/*-p.dat ../2012/12voicedata/allpole/
3957
3958 ####new(5).(6)
3959 ####new(5).(6)
3960 (5) oob4speakerdigit+sX:
3961    各話者の zero,...,kyuの 特徴ベクトルvec{q}（極配置ベクトル）を入力し、
3962    CAN2^{s}の出力ベクトルv[s]を求めるプログラム、
3963    この出力ファイル（?)には入力と出力のペアが保存されてる はず for oob4speakerdigit+sX to make ../../2012/12voicedata/iconip14data/oob4
3964    #see 「20140502 at mesaho」 for oob4speakerdigit+sX to make ../../2012/12voicedata/iconip14data/oob4
3965    出力ファイル名: ../../2012/12voicedata/allpole/oob4s:-1N${N}mbas2:${b}:${a}:1sX${sX}nS${nS}nD${nD}.y
stat
3966
3967 (6)
3968 #20160515 ICONIP2016の整理
3969 #[0] sh/iconip16expl.sh (speakerdigit_v8.cを使用) のオプションの説明
3970
3971
3972 (5) 話者認識・数字認識実験をする
3973 cmd="loo4sprecogv1 sp:${sp} tx:${tx} k:36 N:20 dir:${dirp} rsa:2:0.7:1:20"
3974 数字CAN2
3975 $cmd
3976 #話者CAN2
3977 dira=../../2012/12voicedata/allpole
3978 cmd="oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 mbas:2:300:1.6:1 dir:$dira s:-1 N:40";$cmd
3979 数字CAN2
3980 cmd="oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 mbas:2:300:1.6:1 dir:$dira d:-1 N:40";$cmd
3981
3982 #see 「20140502 at mesaho」 for oob4speakerdigit+sX to make ../../2012/12voicedata/iconip14data/oob4
s:-1N40mbas2:300:1.6:1sX${sX}.y
3983 a=1.6:b=300:N=40:sX=-1
3984 cmd="oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:k
yu ntxi:10 k:36 mbas:2:${b}:${a}:1 dir:../../2012/12voicedata/allpole s:-1 N:${N} sX:${sX}"
3985    echo $cmd:time $cmd
3986    0.920 0.967 0.033 0.080 1.619e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 for check.
3987    #result in ../../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX-1.ystat'. real15lm17.810s user147m4.488s gcc
data/allpole/oob4s:-1N40mbas2:300:1.6:1sX-1.ystat'. real15lm17.810s user147m4.488s gcc
3988    0.920 0.967 0.033 0.080 1.619e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 for check.
3989    #result in ../../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX-1.y' and '../../2012/12voice
data/allpole/oob4s:-1N40mbas2:300:1.6:1sX-1.ystat'. real142m54.198s user30m44.935s icc
3990
3991
3992 20171122
3993 #(0) 極配置ベクトルを作るプログラムの詳細は、readme-mineishi.txtを参照のこと
3994 #(1) 極を抽出する
3995 sp=fns:mhk
3996 sp=fns:mhk               #09voicedata involves fns:mhk:mhy:mkh:mmo:msm:mtn:mwk:mym
3997 tx=daigaku1:daigaku2     #09voicedata has fns:mhk:mhy:mkh:mmo:msm:mtn:mwk:mym
3998 dir=../can2_voicedata/09voicedata/daigaku ##←自々のPCのフォルダの構造に合わせて設定すべし！
3999 # フォルダ../can2_voicedata は
4000 # http://kurolab.cntl.kyutech.ac.jp/~kuro/sotu/2012/can2_voicedata.7zを解凍したもの
4001 # 元々は/home/mineishi/can2dataを圧縮したもの（can2bの中身は少し変えてる）
4002 cmd="poledistribv2 sp:${sp} tx:${tx} N:24 k:8 m:poles4 dir:${dir} rsa:2:0.7:1:20 DISP:1 DiffMode:0 t
t:0:400 T:100"
4003 #cmd="poledistribv2 sp:${sp} tx:${tx} N:24 k:8 m:poles4 dir:${dir} rsa:2:0.7:1:20 DISP:1 DiffMode:0
tt:0:400 T:100 DISP:0"
4004    T:100 DISP:0"
4005    $cmd
4006 #(2) この極配置をベクトル化する
4007 sp=fns:mhk
4008 tx=daigaku1:daigaku2 #daigaku  has daigaku1:daigaku2:daigaku3:daigaku4:daigaku5   #
4009 dir=../can2_voicedata/09voicedata/daigaku       #
4010 dirp=${dir}p
4011 cmd="mkpoleptv2 sp:${sp} tx:${tx} k:8 Np:24 dir:tmp dir2:${dir} data:${dirp} rsa:2:0.7:1:20 nt:18
nr:2 r_max:2"
4012    $cmd
4013
4014 (3) 話者認識実験をする
4015 cmd="loo4sprecogv1 sp:${sp} tx:${tx} k:36 N:20 dir:${dirp} rsa:2:0.7:1:20"
4016    $cmd
4017
4018
```

```
4019 ####################################
4020 20161104
4021 ####
4022 (1) speakerdigit_v8.cのバグを修正した.
4023 主なバグは，訓練および テストの時系列の長さを変えると，エラーがでることであり，次の2つの変数：
4024 #define MAX_nDTCoCp 200 ///#define MAX_nDTCoCp 500
4025 #define MAX_nT 3000
4026 の導入と関連する箇所の修正を行った.
4027 (2) 指定話者の出現パターン（DTCoCp）を訓練時とテスト時で異なる設定ができるスクリプト
4028 sh/iconip16post.sh を作成した.
4029 以下に示す実験例では，指定話者の出現パターンを L50(非指定話者100の後，20:50,15:50,10:50,5:50を繰り返す)と
4030 手順2-1(訓練)：指定話者の出現パターン を L50(非指定話者100の
```

(以下、ページ65・66は confusion matrix および実行スクリプトのログ出力が連続して記載されている。行番号 4031〜4169。)

```
g-GEBI(gibbs:1:1:0.3:500)と g-BI(gibbs:1:1:0.3:500)をそれぞれ行う.
手順2-2(テスト)：指定話者の出現パターン を L11(10:30の繰返),L12(20:30の繰返),L13(30:30),L14(5:30)
```

(ページ全体は machine-generated ログ（confusion matrix 数値と実行コマンド）で、次の形式が繰り返される)

```
             n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=2:tdR=4
 #   C0    C1    C2    C3    #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
 .              #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
 .              #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
 #   C0    C1    C2    C3    #p30 p31 p32 p33 n3 wp2 for C3=Costationary
                N #Confusion Matrix using undecidable
 #pC0lC0 pC0lC3 nC0lDetected/nC0lall=...
 #pC23C0 pC23C3 nC23Detected/nC23all=...
 cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll1tr3Su2td4/ProbbDistSpeaker
 ##手順2-2(テスト) g-BI Ll1
 export fpg=../result-speakerdetect/iconip16post_gibbs:1:0.25:0Ll1tr3Su2td4/ProbbDistSpeaker
 rm -f nohup.out:nohup sh ./sh/iconip16post.sh gibbs:1:0.25:0 Ll1 3 2 4& #g-BI, after the finish, tail
 -9 nohup.out
```

(この形式が Ll1, Ll2, Ll3, Ll4, Ll5 … L11, L12, L13, L14, L15 について繰り返される。)

```
1 -9 nohup.out
4170  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4171  0.856 0.119 0.025 0.000 1260000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4172  0.342 0.396 0.257 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4173  0.014 0.308 0.577 0.100  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4174  0.003 0.007 0.148 0.842 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4175  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4176  0.999 0.001 #pC01C0 pC01C3 nC01all=1187865/1575000=0.754
4177  0.005 0.995 #pC23C0 pC23C3 nC23all=2769438/3556000=0.779
4178  cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll5tr3Su2td4
4179  ###
4180  #############
4181  ####g-GEBI with fpg for L13
4182  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4/ProbDistSpeaker
4183  ###rm -f nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L13 3 2 4& #g-GEB
I, after the finish, tail -9 nohup.out
4184  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4185  0.888 0.103 0.008 0.000 2835000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4186  0.466 0.293 0.236 0.006  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4187  0.298 0.072 0.549 0.081  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4188  0.010 0.001 0.149 0.839 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4189  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4190  0.999 0.001 #pC01C0 pC01C3 nC01Detected/nC01all=2663955/3150000=0.846
4191  0.045 0.955 #pC23C0 pC23C3 nC23all=2867704/3556000=0.806
4192  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll3tr3Su2td4
4193  ####g-BI with fpg for L13
4194  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.25:0:Ll10tr3Su2td4/ProbDistSpeaker
4195  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.25:0 L13 3 2 4& #g-BI, after
the finish, tail -9 nohup.out
4196  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4197  0.884 0.105 0.010 0.000 2835000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4198  0.496 0.423 0.077 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4199  0.039 0.025 0.782 0.154  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4200  0.006 0.014 0.090 0.890 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4201  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4202  0.999 0.001 #pC01C0 pC01C3 nC01Detected/nC01all=2663955/3150000=0.846
4203  0.004 0.996 #pC23C0 pC23C3 nC23all=2959810/3556000=0.832
4204  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.25:0Ll3tr3Su2td4
4205  ####
4206  ####g-GEBI with fpg for L12
4207  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4/ProbDistSpeaker
4208  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L13 3 2 4& #g-GEBI,
after the finish, tail -9 nohup.out
4209  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4210  0.878 0.095 0.026 0.001 1785000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4211  0.293 0.317 0.366 0.024  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4212  0.009 0.180 0.636 0.175  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4213  0.003 0.004 0.079 0.915 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4214  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4215  0.994 0.006 #pC01C0 pC01C3 nC01Detected/nC01all=1668870/2100000=0.795
4216  0.004 0.996 #pC23C0 pC23C3 nC23all=2960132/3556000=0.832
4217  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll2tr3Su2td4
4218  ###
4219  ####g-BI with fpg for L12
4220  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.25:0:Ll10tr3Su2td4/ProbDistSpeaker
4221  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.25:0 L12 3 2 4& #g-BI, after
the finish, tail -9 nohup.out #L11 worse than g-BI???
4222  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4223  0.878 0.095 0.026 0.001 1785000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4224  0.497 0.424 0.075 0.004  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4225  0.293 0.024 0.782 0.155  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4226  0.009 0.180 0.636 0.175 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4227  0.003 0.004 0.079 0.915 3234000 100 #Confusion Matrix using undecidable
4228  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4229  0.994 0.006 #pC01C0 pC01C3 nC01all=1648290/2100000=0.785
4230  0.004 0.996 #pC23C0 pC23C3 nC23all=2960132/3556000=0.832
4231  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.25:0Ll2tr3Su2td4
4232  ####g-GEBI with fpg for L11
4233  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4/ProbDistSpeaker
4234  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L11 3 2 4& #g-GEBI,
after the finish, tail -9 nohup.out
4235  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4236  0.835 0.149 0.016 0.000  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4237  0.624 0.329 0.045 0.002  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4238  0.458 0.299 0.238 0.005  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4239  0.248 0.050 0.583 0.119 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4240  0.008 0.002 0.139 0.851 3234000 100 #Confusion Matrix using undecidable
4241  0.995 0.005 #pC01C0 pC01C3 nC01all=605955/1050000=0.577
4242  0.037 0.963 #pC23C0 pC23C3 nC23all=2896180/3556000=0.814
4243  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.25:0:Ll10tr3Su2td4/ProbDistSpeaker
4244  ####g-BI with fpg for L11
4245  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.25:0:Ll10tr3Su2td4/ProbDistSpeaker
```

```
4246  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.25:0 L11 3 2 4& #g-BI, after
the finish, tail -9 nohup.out
4247  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4248  0.644 0.311 0.043 0.005  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4249  0.496 0.423 0.076 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4250  0.039 0.024 0.772 0.165  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4251  0.006 0.014 0.089 0.890 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4252  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4253  0.996 0.004 #pC01C0 pC01C3 nC01Detected/nC01all=631890/1050000=0.602
4254  0.011 0.989 #pC23C0 pC23C3 nC23Detected/nC23all=2963352/3556000=0.833
4255  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.25:0Ll1tr3Su2td4
4256  ###
4257  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4/ProbDistSpeaker
4258  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L14 3 2 4& #g-BI, after
the finish, tail -9 nohup.out
4259  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4260  0.160 0.042 0.736 0.063  180000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4261  0.416 0.249 0.326 0.010  270000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4262  0.007 0.002 0.464 0.527  276000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4263  0.007 0.003 0.085 0.905 2772000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4264  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4265  0.910 0.090 #pC01C0 pC01C3 nC01Detected/nC01all=155160/450000=0.345
4266  0.008 0.992 #pC23C0 pC23C3 nC23all=2675724/3048000=0.878
4267  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll4tr3Su2td4
4268  ###
4269  ###export fpg=../result-speakerdetect/iconip16expl+_gibbs:1:1:0.25:0Ll10tr3Su2td4/ProbDistSpeaker
4270  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.25:0 L14 3 2 4& #g-BI, after
the finish, tail -9 nohup.out
4271  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4272  0.223 0.274 0.453 0.050  180000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4273  0.303 0.576 0.113 0.008  270000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4274  0.461 0.013 0.535 0.442  276000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4275  0.005 0.015 0.083 0.898 2772000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4276  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4277  0.916 0.084 #pC01C0 pC01C3 nC01Detected/nC01all=133110/450000=0.296
4278  0.006 0.994 #pC23C0 pC23C3 nC23all=2627868/3048000=0.862
4279  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.25:0Ll4tr3Su2td4
4280  ###
4281  #####20161017 t_00の影響の検討
4282  ####Ll2 (repetition of 30,20)
4283  ####g-BI
4284  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L12 3 2 4& #g-BI, afte
r the finish, tail -9 nohup.out
4285  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4286  0.830 0.155 0.014 0.000 1785000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4287  0.461 0.284 0.250 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4288  0.301 0.069 0.533 0.096  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4289  0.003 0.004 0.079 0.915 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4290  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4291  0.999 0.001 #pC01C0 pC01C3 nC01Detected/nC01all=162840/2100000=0.775
4292  0.045 0.955 #pC23C0 pC23C3 nC23all=2873500/3556000=0.808
4293  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll2tr3Su2td4
4294  ###
4295  ###
4296  ####g-GEBI is better than above g-BI
4297  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:500 L12 3 2 4& #g-GEBI,
after the finish, tail -9 nohup.out
4298  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3;SiCs=2;tdR=4
4299  0.878 0.095 0.026 0.001 1785000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4300  0.068 0.602 0.239 0.090  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4301  0.293 0.317 0.366 0.024  315000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4302  0.009 0.180 0.636 0.175  322000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4303  0.003 0.004 0.079 0.915 3234000 100 #Confusion Matrix using undecidable
4304  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4305  0.994 0.006 #pC01C0 pC01C3 nC01Detected/nC01all=166870/2100000=0.795
4306  0.004 0.996 #pC23C0 pC23C3 nC23all=3028060/3556000=0.852
4307  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll2tr3Su2td4
4308  ###
4309  ###rm nohup.out;nohup sh ~/sotu/2015/can2b/sh/iconip16post.sh gibbs:1:1:0.3:1e8 L12 3 2 4& #g-GEBI,
after the finish, tail -9 nohup.out
4310  #     C0    C1    C2    C3       n   wpi #Confusion Matrix for gibbs:1:1:0.3:1e8:DTCt=3;SiCs=2;tdR=4
4311  0.841 0.029 0.127 0.003 1785000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4312  0.068 0.602 0.239 0.090  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4313  0.089 0.225 0.637 0.049  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4314  0.000 0.106 0.017 0.876 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4315  #     C0    C1    C2    C3       N #Confusion Matrix using undecidable
4316  0.978 0.022 #pC01C0 pC01C3 nC01all=155610/2100000=0.741
4317  0.010 0.990 #pC23C0 pC23C3 nC23all=2877420/3556000=0.809
4318  0.037 0.963 #pC23C0 pC23C3 nC23all=2896180/3556000=0.814
4319  ###cp nohup.out ../result-speakerdetect/iconip16post_gibbs:1:1:0.3:500Ll1tr3Su2td4
4320  ###
4321  ###
```

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4322  #############L11( repetition of (30,10)
4323  ####g-BI for L11
4324  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:0.25:0:0 L11 3 2 4& #g-BI, afte
      r the finish, tail -9 nohup.out
4325  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:0.25:0:DTCT=3;SiCs=2;tdR=4
4326  ###0.702 0.258 0.039 0.001  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4327  ###0.525 0.396 0.074 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4328  ###0.048 0.018 0.769 0.165  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4329  ###0.011 0.012 0.087 0.890 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4330  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4331  ###0.997 0.003 #pC0lC0 pC01C3 nC01Detected/nC01all= 683655/1050000=0.651
4332  ###0.017 0.983 #pC23C0 pC23C0 nC23Detected/nC23all=2982420/3556000=0.839
4333  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:0.25:0Lllltr3Su2td4
4334  ###
4335  ####g-GEBI better than above g-BI (C0xC0=0.792>0.702
4336  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:500 L11 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4337  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:500;DTCt=3;SiCs=2;tdR=4
4338  ###0.792 0.133 0.072 0.003  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4339  ###0.799 0.109 0.088 0.004  735000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4340  ###0.402 0.253 0.332 0.014  315000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4341  ###0.020 0.150 0.665 0.165  322000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4342  ###0.002 0.003 0.097 0.897 3234000 100 #Confusion Matrix using undeciable
4343  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4344  ###0.991 0.009 #pC0lC0 pC01C3 nC01Detected/nC01all= 715365/1050000=0.681
4345  ###0.004 0.996 #pC23C0 pC23C0 nC23Detected/nC23all=2966936/3556000=0.834
4346  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:500L1lltr3Su2td4
4347  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:600 L11 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4348  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:600;DTCt=3;SiCs=2;tdR=4
4349  ###0.799 0.109 0.088 0.004  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4350  ###0.347 0.200 0.436 0.017  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4351  ###0.028 0.148 0.655 0.169  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4352  ###0.002 0.003 0.098 0.897 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4353  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4354  ###0.988 0.012 #pC0lC0 pC01C3 nC01Detected/nC01all= 704865/1050000=0.671
4355  ###0.005 0.995 #pC23C0 pC23C0 nC23Detected/nC23all=2970800/3556000=0.835
4356  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:600L1lltr3Su2td4
4357  ###############L10
4358  ####g-BI for L10
4359  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:400 L11 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4360  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:400;DTCt=3;SiCs=2;tdR=4
4361  ###0.790 0.135 0.072 0.003  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4362  ###0.473 0.244 0.272 0.010  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4363  ###0.017 0.127 0.668 0.188  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4364  ###0.003 0.006 0.097 0.894 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4365  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4366  ###0.993 0.007 #pC0lC0 pC01C3 nC01Detected/nC01all= 735000/1050000=0.700
4367  ###0.005 0.995 #pC23C0 pC23C0 nC23Detected/nC23all=2966908/3556000=0.834
4368  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:400L1lltr3Su2td4
4369  ##############L10(repetition of 30,20:30,15:30,10:30,5)
4370  ####g-BI for L10
4371  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh g000 L10 3 2 4& #g-BI, after the fini
      sh, tail -9 nohup.out
4372  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4373  ###0.750 0.199 0.047 0.003 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4374  ###0.447 0.464 0.084 0.005  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4375  ###0.032 0.021 0.720 0.227  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4376  ###0.006 0.015 0.089 0.890 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4377  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4378  ###0.995 0.005 #pC0lC0 pC01C3 nC01Detected/nC01all=1072197/1575000=0.681
4379  ###0.010 0.990 #pC23C0 pC23C0 nC23Detected/nC23all=3505411/4186000=0.837
4380  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:0.25:0L10tr3Su2td4
4381  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:0.25:0 L1 3 2 4& #g-BI, after
      the finish, tail -9 nohup.out
4382  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix using undeciable
4383  ####Best GEBI 0.825=C00 for L10
4384  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:500 L10 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4385  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:500;DTCt=3;SiCs=2;tdR=4
4386  ###0.825 0.113 0.059 0.004 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4387  ###0.329 0.423 0.241 0.006  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4388  ###0.014 0.275 0.501 0.211  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4389  ###0.002 0.011 0.132 0.855 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4390  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4391  ###0.994 0.006 #pC0lC0 pC01C3 nC01Detected/nC01all=1118943/1575000=0.710
4392  ###0.004 0.996 #pC23C0 pC23C0 nC23Detected/nC23all=3344082/4186000=0.799
4393  ###cp nohup.out ../result-speakerdetect/iconip16expl+.sh gibbs:1:1:0.3:500L10tr3Su2td4
4394  ###
4395  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:600 L10 3 2 4& #g-GEBI,
```

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      after the finish, tail -9 nohup.out
4396  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:600:DTCt=3;SiCs=2;tdR=4
4397  ###0.820 0.127 0.049 0.004 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4398  ###0.281 0.545 0.167 0.007  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4399  ###0.014 0.389 0.392 0.205  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4400  ###0.002 0.014 0.128 0.856 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4401  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4402  ###0.993 0.007 #pC0lC0 pC01C3 nC01Detected/nC01all=1095192/1575000=0.695
4403  ###0.004 0.996 #pC23C0 pC23C0 nC23Detected/nC23all=3345573/4186000=0.799
4404  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:600Ll0tr3Su2td4
4405  ####gGEBI best t_00=200? best for 0.999<C3detected?
4406  ###GEBI best t_00=200? best for 0.999-C3detected?
4407  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:200 L10 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4408  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:200;DTCt=3;SiCs=2;tdR=4
4409  ###0.696 0.228 0.073 0.003 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4410  ###0.382 0.495 0.115 0.005  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4411  ###0.001 0.066 0.662 0.271  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4412  ###0.001 0.015 0.103 0.881 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4413  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4414  ###0.994 0.006 #pC0lC0 pC01C3 nC01Detected/nC01all= 982989/1575000=0.624
4415  ###0.001 0.999 #pC23C0 pC23C0 nC23Detected/nC23all=3456617/4186000=0.826
4416  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:200Ll0tr3Su2td4
4417  ###
4418  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:1e8 L10 3 2 4& #g-GEBI
4419  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:1e8:DTCt=3;SiCs=2;tdR=4
4420  ###0.749 0.073 0.149 0.029 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4421  ###0.072 0.649 0.200 0.079  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4422  ###0.083 0.265 0.362 0.290  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4423  ###0.001 0.086 0.009 0.905 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4424  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4425  ###0.935 0.065 #pC0lC0 pC01C3 nC01Detected/nC01all= 988344/1575000=0.628
4426  ###0.009 0.991 #pC23C0 pC23C0 nC23Detected/nC23all=3583510/4186000=0.856
4427  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:1e8Ll0tr3Su2td4
4428  ###
4429  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:400 L10 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4430  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:400:DTCt=3;SiCs=2;tdR=4
4431  ###0.769 0.167 0.060 0.004 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4432  ###0.296 0.511 0.187 0.006  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4433  ###0.004 0.224 0.545 0.227  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4434  ###0.004 0.009 0.126 0.861 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4435  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4436  ###0.993 0.007 #pC0lC0 pC01C3 nC01Detected/nC01all= 961163/1575000=0.611
4437  ###0.005 0.995 #pC23C0 pC23C0 nC23Detected/nC23all=3437812/4186000=0.821
4438  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:400Ll0tr3Su2td4
4439  ###
4440  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:300 L10 3 2 4& #g-GEBI,
      after the finish, tail -9 nohup.out
4441  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3:300:DTCt=3;SiCs=2;tdR=4
4442  ###0.699 0.228 0.070 0.003 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4443  ###0.316 0.528 0.150 0.005  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4444  ###0.001 0.113 0.617 0.270  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4445  ###0.004 0.011 0.112 0.873 3801000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4446  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4447  ###0.994 0.006 #pC0lC0 pC01C3 nC01Detected/nC01all=1180053/1575000=0.749
4448  ###0.005 0.995 #pC23C0 pC23C0 nC23Detected/nC23all=3365263/4186000=0.876
4449  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:300Ll0tr3Su2td4
4450  ###
4451  ###
4452  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4
4453  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:1:0.3:100:DTCt=3;SiCs=2;tdR=4
4454  ###0.768 0.153 0.074 0.005 1197000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4455  ###0.670 0.279 0.048 0.004  378000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4456  ###0.033 0.008 0.536 0.424  385000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4457  ###0.026 0.013 0.069 0.892 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4458  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
4459  ###0.994 0.006 #pC0lC0 pC01C3 nC01Detected/nC01all= 735000 100 #Confusion Matrix using undeciable
4460  ###0.030 0.970 #pC23C0 pC23C0 nC23Detected/nC23all=
4461  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:1:0.3:100Ll0tr3Su2td4
4462  ###
4463  #####################################
4464  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:0.25:0 L11 3 2 4& #g-BI, afte
      r the finish, tail -9 nohup.out
4465  ###   C0    C1    C2    C3      n  wpi #Confusion Matrix using undeciable
4466  ###0.702 0.258 0.039 0.001  735000 100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4467  ###0.525 0.396 0.074 0.005  315000 100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4468  ###0.048 0.018 0.769 0.165  322000 100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4469  ###0.011 0.012 0.087 0.890 3234000 100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4470  ###   C0    C1    C2    C3       N #Confusion Matrix using undeciable
```

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4471  ###.997  0.003  #pC01C0  pC01C3  nC01Detected/nC01all=  683655/1050000=0.651
4472  ###.017  0.983  #pC23C0  pC23C3  nC23Detected/nC23all=2982420/3556000=0.839
4473  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:0.25:0:L25:0Lltr3Su2td4
4474  ###
4475  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:0.25:0 L12  3  2  4&  #g-BI, afte
r the finish, tail  -9 nohup.out
4476  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=3:SiCs=2:tdR=4
4477  ###.860  0.127  0.010  0.002 2835000  100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4478  ###.433  0.484  0.077  0.006 315000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4479  ###.006  0.057  0.782  0.156 322000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4480  ###.000  0.020  0.090  0.891 3234000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4481  ####   C0    C3    N #Confusion Matrix using undecidable
4482  ###.997  0.003  #pC01C0  pC01C3  nC01Detected/nC01all=2582055/3150000=0.820
4483  ###.001  0.999  #pC23C0  pC23C3  nC23Detected/nC23all=2933658/3556000=0.825
4484  ###cp nohup.out ../result-speakerdetect/iconip16expl+_gibbs:1:0.25:0:L13tr3Su2td4
4485  ###
4486  ###rm nohup.out:nohup sh ~/sotu/2015/can2b/sh/iconip16expl+.sh gibbs:1:0.25:0 L14  3  2  4&  #g-BI, afte
r the finish, tail  -9 nohup.out
r the finish, tail  -9 nohup.out
4487  ###
4488  ###nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g101 L10  3  2  4&  #g-GEBI, after the finish, tail  -9
nohup.out
4489  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=2:tdR=4
4490  ###.838  0.081  0.070  0.011 1197000  100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4491  ###.268  0.432  0.272  0.028 378000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4492  ###.034  0.318  0.408  0.239 385000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4493  ###.070  0.038  0.070  0.890 3801000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4494  ####   C0    C3    N #Confusion Matrix using undecidable
4495  ###.979  0.021  #pC01C0  pC01C3  nC01Detected/nC01all=1128141/1575000=0.716
4496  ###.006  0.994  #pC23C0  pC23C3  nC23Detected/nC23all=3495597/4186000=0.835
4497  ###cp nohup.out ../result-speakerdetect/iconip16expl_g101L10tr3Su2td4
4498  ###
4499  ###############
4500  ###nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g104 L10  3  2  4&  #g-GEBI, after the finish, tail  -9
nohup.out
4501  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=2:tdR=4
4502  ###.760  0.166  0.070  0.004 1197000  100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4503  ###.328  0.479  0.184  0.008 378000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4504  ###.002  0.207  0.589  0.198 385000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4505  ###.004  0.011  0.130  0.855 3801000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4506  ####   C0    C3    N #Confusion Matrix using undecidable
4507  ###.992  0.008  #pC01C0  pC01C3  nC01Detected/nC01all=1041516/1575000=0.661
4508  ###.005  0.995  #pC23C0  pC23C3  nC23Detected/nC23all=3343214/4186000=0.799
4509  ###cp nohup.out ../result-speakerdetect/iconip16expl_g104L10tr3Su2td4
4510  ###
4511  ###nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g102 L10  3  2  4&  #g-GEBI, after the finish, tail  -9
nohup.out
4512  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:200:DTCt=3:SiCs=2:tdR=4
4513  ###.730  0.197  0.069  0.004 1197000  100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4514  ###.312  0.509  0.171  0.008 378000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4515  ###.002  0.114  0.699  0.185 385000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4516  ###.000  0.011  0.123  0.866 3801000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4517  ####   C0    C3    N #Confusion Matrix using undecidable
4518  ###.992  0.008  #pC01C0  pC01C3  nC01Detected/nC01all=999558/1575000=0.635
4519  ###.000  1.000  #pC23C0  pC23C3  nC23Detected/nC23all=3363661/4186000=0.804
4520  ###cp nohup.out ../result-speakerdetect/iconip16expl_g102L10tr3Su2td4
4521  ###
4522  ###nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g103 L10  3  2  4&  #g-GEBI, after the finish, tail  -9
nohup.out
4523  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=3:SiCs=2:tdR=4
4524  ###.743  0.187  0.067  0.004 1197000  100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4525  ###.541  0.368  0.085  0.006 378000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4526  ###.027  0.028  0.657  0.288 385000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4527  ###.000  0.017  0.092  0.883 3801000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4528  ####   C0    C3    N #Confusion Matrix using undecidable
4529  ###.995  0.005  #pC01C0  pC01C3  nC01Detected/nC01all=1099728/1575000=0.698
4530  ###.012  0.988  #pC23C0  pC23C3  nC23Detected/nC23all=3507966/4186000=0.838
4531  ###cp nohup.out ../result-speakerdetect/iconip16expl_g103L10tr3Su2td4
4532  ###
4533  ##############################################################################
4534  ##
4535  #20160515 ICONIP2016の整理
4536  #20160515 ICONIP2016の整理
4537  #[0] sh/iconip16expl.sh（speakerdigit_v8.c を使用） のオプションの説明
4538  #(a)g10:BI
4539  #(b)g11:GEBI
4540  #(c)g0:g-BI
4541  #(d)g1:g-GEBI  t_o=500  (p4の式(8):初期化する時刻 t_0:論文p.6の下から2行目 t-t_o=500)
4542  #(e)g2:g-GEBEI  t_o=200  (論文p.6の下から2行目 t-t_o=200) ICONIP2016では使用してない。
4543  ###########iconip16.sh を参照
4544  ###
4545  #(1) BI
```

```
4546  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g10 L1  3  2  4&
4547  #-->Fig2(a)
4548  #
4549  #(2) GEBI
4550  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g11 L1  3  2  4&
4551  # -->Fig2(b) GEBI
4552  #
4553  #(3) g-BI
4554  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L1  3  2  4&
4555  # -->Fig2(c), Fig3(a), Table(a)
4556  #
4557  #(4) g-GEBI
4558  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1  3  2  4&
4559  # -->Fig2(d),Fig3(b),#Table 1(b)
4560  #
4561  #以下、結果
4562  #
4563  #20160411->20160515 ICONIP2016
4564  #Usage: nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh <gi> <Ln>  <DTCt>  <SiCs>  <tdR>  &
4565  #                    <gi>: g0, g1,g2
4566  #                    <Ln>: L0, L1, L2, ...
4567  #                    <DTCt>:length of transient period
4568  #                    <SiCs>:2 for registered only 3 for unregistered
4569  #                    <tdR>: delay of Detection
4570  #
4571  #ICONIP2016 Table1(a)
4572  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L1  3  2  4&
4573  tail  -8 ../result-speakerdetect/iconip16expl_g0Lltr3Su2td4/nohup.out
4574  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=3:SiCs=2:tdR=4
4575  ###.752  0.200  0.045  0.003 266000   100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4576  ###.445  0.462  0.087  0.006 84000    100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4577  ###.031  0.020  0.675  0.273 91000    100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4578  ###.006  0.011  0.065  0.918 1155000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4579  ####   C0    C3    N #Confusion Matrix using undecidable
4580  ###.995  0.005  #pC01C0  pC01C3  nC01Detected/nC01all= 238714/ 350000=0.682
4581  ###.009  0.991  #pC23C0  pC23C3  nC23Detected/nC23all=1094884/1246000=0.879
4582  #
4583  #ICONIP2016 Table 1(b)
4584  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1  3  2  4&
4585  tail  -8 ../result-speakerdetect/iconip16expl_g1Lltr3Su2td4/nohup.out
4586  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=3:tdR=4
4587  ###.784  0.156  0.056  0.004 266000   100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4588  ###.197  0.579  0.218  0.007 84000    100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4589  ###.005  0.269  0.509  0.217 91000    100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4590  ###.005  0.101  0.894  1155000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4591  ####   C0    C3    N #Confusion Matrix using undecidable
4592  ###.993  0.007  #pC01C0  pC01C3  nC01Detected/nC01all= 226744/ 350000=0.648
4593  ###.000  1.000  #pC23C0  pC23C3  nC23Detected/nC23all=1052772/1246000=0.845
4594  #
4595  ## <SiCs=3:unregisterd speaker not used in iconip2016
4596  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L1  3  3  4&
4597  tail  -8 ../result-speakerdetect/iconip16expl_g0Lltr3Su3td4/nohup.out
4598  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=3:tdR=4
4599  ###.867  0.022  0.103  0.007 266000   100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4600  ###.682  0.104  0.177  0.037 84000    100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4601  ###.413  0.091  0.355  0.141 91000    100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4602  ###.213  0.047  0.178  0.562 1155000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4603  ####   C0    C3    N #Confusion Matrix using undecidable
4604  ###.983  0.017  #pC01C0  pC01C3  nC01Detected/nC01all= 292880/ 350000=0.837
4605  ###.300  0.700  #pC23C0  pC23C3  nC23Detected/nC23all= 945539/1246000=0.759
4606  #
4607  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1  3  3  4&
4608  tail  -8 ../result-speakerdetect/iconip16expl_g1Lltr3Su3td4/nohup.out
4609  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=3:tdR=4
4610  ###.895  0.037  0.060  0.008 266000   100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4611  ###.576  0.258  0.117  0.049 84000    100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4612  ###.483  0.202  0.194  0.121 91000    100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4613  ###.239  0.171  0.094  0.496 1155000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4614  ####   C0    C3    N #Confusion Matrix using undecidable
4615  ###.979  0.021  #pC01C0  pC01C3  nC01Detected/nC01all= 292698/ 350000=0.836
4616  ###.354  0.646  #pC23C0  pC23C3  nC23Detected/nC23all= 903889/1246000=0.725
4617  #####################################
4618  ################################
4619  #
4620  nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L9  3  2  4
4621  tail  -8 ../result-speakerdetect/iconip16expl_g1L9tr3Su3td4/nohup.out
4622  ####   C0    C1    C2    C3    n wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=3:SiCs=2:tdR=4
4623  ###.503  0.260  0.157  0.080 140000   100 #p00 p01 p02 p03 n0 wp0 for C0=Crstationary
4624  ###.244  0.681  0.059  0.015 210000   100 #p10 p11 p12 p13 n1 wp1 for C1=Crtransient
4625  ###.131  0.018  0.382  0.469 217000   100 #p20 p21 p22 p23 n2 wp2 for C2=Cotransient
4626  ###.029  0.008  0.050  0.913 2289000  100 #p30 p31 p32 p33 n3 wp2 for C3=Costationary
4627  
```

4628 # C0   C3   N #Confusion Matrix using undecidable
4629 0.894 0.106 #pC0lC0 pC0lC3 nC0lDetected/nC0lall= 1360l0/ 350000=0.389
4630 0.041 0.959 #pC23C0 pC23C3 nC23Detected/nC23all=2286438/2506000=0.912
4631
4632 tail -8 ../result-speakerdetect/iconipl6expl_g1Lltr3Su2td4/nohup.out
4633 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=3;SiCs=2;tdR=4
4634 0.768 0.154 0.073 0.005 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Crstationary
4635 0.667 0.278 0.051 0.004 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Crtransient
4636 0.031 0.007 0.508 0.455 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cotransient
4637 0.019 0.009 0.053 0.919 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Costationary
4638 # C0   C3   N #Confusion Matrix using undecidable
4639 0.994 0.006 #pC0lC0 pC0lC3 nC0lDetected/nC0lall= 261982/ 350000=0.749
4640 0.022 0.978 #pC23C0 pC23C3 nC23Detected/nC23all=1127616/1246000=0.905
4641
4642
4643
4644
4645 ###
4646
4647 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g10 Ll 3 2 4&
4648 tail ../result-speakerdetect/iconipl6expl_g10Lltr3Su2td4/nohup.out
4649 original_BI   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0:DTCt=3;SiCs=2;tdR=4 #result of
4650 0.028 0.758 0.207 0.007 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4651 0.027 0.009 0.957 0.007 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4652 0.001 0.001 0.985 0.013 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4653 0.001 0.046 0.915 0.037 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4654 # C0   C3   N #Modified Confusion Matrix
4655 0.799 0.201 12166 #p00 p03 N0 for target C0=Cp
4656 0.028 0.972 45164 #p30 p33 N3 for target C3=Co
4657 0.964 0.036 1596000 #PNT 1-PNT num-of-all-data
4658
4659 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g0 Ll 3 2 4&
4660 tail ../result-speakerdetect/iconipl6expl_g0Lltr3Su2td4/nohup.out
4661 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=2;tdR=4
4662 0.752 0.200 0.045 0.003 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4663 0.445 0.462 0.087 0.006 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4664 0.031 0.020 0.675 0.273 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4665 0.006 0.011 0.065 0.918 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4666 # C0   C3   N #Modified Confusion Matrix
4667 0.995 0.005 238714 #p00 p03 N0 for target C0=Cp
4668 0.009 0.991 1.09488e+06 #p30 p33 N3 for target C3=Co
4669 0.164 0.836 1596000 #PNT 1-PNT num-of-all-data
4670
4671 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g1 Ll 3 2 4&
4672 tail ../result-speakerdetect/iconipl6expl_g1Lltr3Su2td4/nohup.out
4673 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=3;SiCs=2;tdR=4
4674 0.784 0.156 0.056 0.004 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4675 0.197 0.579 0.218 0.007 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4676 0.005 0.269 0.509 0.217 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4677 0.000 0.005 0.101 0.894 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4678 # C0   C3   N #Modified Confusion Matrix
4679 0.993 0.007 226744 #p00 p03 N0 for target C0=Cp
4680 0.000 1.000 1.05277e+06 #p30 p33 N3 for target C3=Co
4681 0.198 0.802 1596000 #PNT 1-PNT num-of-all-data
4682
4683 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g0 Ll 3 3 4&
4684 tail ../result-speakerdetect/iconipl6expl_g0Lltr3Su3td4/nohup.out
4685 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.25:0:DTCt=3;SiCs=3;tdR=4
4686 0.867 0.022 0.103 0.007 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4687 0.682 0.104 0.177 0.037 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4688 0.413 0.091 0.355 0.141 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4689 0.213 0.047 0.178 0.562 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4690 # C0   C3   N #Modified Confusion Matrix
4691 0.983 0.017 22880 #p00 p03 N0 for target C0=Cp
4692 0.300 0.700 945539 #p30 p33 N3 for target C3=Co
4693 0.000 1.000 1.05277e+06 #p30 p33 N3 for target C3=Co
4694 0.224 0.776 1596000 #PNT 1-PNT num-of-all-data
4695
4696 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g1 Ll 3 3 4&
4697 tail ../result-speakerdetect/iconipl6expl_g1Lltr3Su3td4/nohup.out
4698 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=3;SiCs=3;tdR=4
4699 0.895 0.037 0.060 0.008 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4700 0.576 0.258 0.117 0.049 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4701 0.483 0.202 0.194 0.121 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4702 0.239 0.171 0.094 0.496 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4703 # C0   C3   N #Modified Confusion Matrix
4704 0.979 0.021 292698 #p00 p03 N0 for target C0=Cp
4705 0.354 0.646 903889 #p30 p33 N3 for target C3=Co
4706 0.250 0.750 1596000 #PNT 1-PNT num-of-all-data
4707 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g2 Ll 3 2 4
4708 tail ../result-speakerdetect/iconipl6expl_g2Lltr3Su2td4/nohup.out

4709 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:10000:DTCt=3;SiCs=2;tdR=4
4710 0.784 0.156 0.056 0.004 266000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4711 0.197 0.579 0.218 0.007 84000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4712 0.005 0.269 0.509 0.217 91000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4713 0.000 0.005 0.101 0.894 1155000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4714 # C0   C3   N #Modified Confusion Matrix
4715 0.993 0.007 226744 #p00 p03 N0 for target C0=Cp
4716 0.000 1.000 1.05277e+06 #p30 p33 N3 for target C3=Co
4717 0.198 0.802 1596000 #PNT 1-PNT num-of-all-data
4718
4719
4720 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g0 Ll 0 2 4&
4721 tail ../result-speakerdetect/iconipl6expl_g0Lltr0Su2td4/nohup.out
4722 # C0   C2   C3   n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=0;SiCs=2;tdR=4
4723 0.973 0.000 0.000 0.027 350000 100 #p00 p02 p03 n0 wp0 for target C0=Cp
4724 nan nan nan nan   0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4725 nan nan nan nan   0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4726 0.035 0.000 0.000 0.965 1246000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4727 # C0   C3   N #Modified Confusion Matrix
4728 nan nan   nan #p00 p03 N0 for target C0=Cp
4729 nan nan   nan #p30 p33 N3 for target C3=Co
4730 nan nan   1596000 #PNT 1-PNT num-of-all-data
4731
4732 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g1 Ll 0 2 4&
4733 tail ../result-speakerdetect/iconipl6expl_g1Lltr0Su2td4/nohup.out
4734 # C0   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=0;SiCs=2;tdR=4
4735 0.939 0.000 0.000 0.061 350000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4736 nan nan nan nan   0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4737 nan nan nan nan   0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4738 0.043 0.000 0.000 0.957 1246000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4739 # C0   C3   N #Modified Confusion Matrix
4740 nan nan   nan #p00 p03 N0 for target C0=Cp
4741 nan nan   nan #p30 p33 N3 for target C3=Co
4742 nan nan   1596000 #PNT 1-PNT num-of-all-data
4743
4744 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g0 Ll 0 2 0&
4745 tail ../result-speakerdetect/iconipl6expl_g0Lltr0Su2td0/nohup.out
4746 # C0   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=0;SiCs=2;tdR=0
4747 0.885 0.000 0.000 0.115 350000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4748 nan nan nan nan   0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4749 nan nan nan nan   0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4750 0.118 0.000 0.000 0.882 1256500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4751 # C0   C3   N #Modified Confusion Matrix
4752 nan nan   nan #p00 p03 N0 for target C0=Cp
4753 nan nan   nan #p30 p33 N3 for target C3=Co
4754 nan nan   1606500 #PNT 1-PNT num-of-all-data
4755 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g1 Ll 0 2 0&
4756 tail ../result-speakerdetect/iconipl6expl_g1Lltr0Su2td0/nohup.out
4757 # C0   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=0;SiCs=2;tdR=0
4758 0.898 0.000 0.000 0.102 350000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4759 nan nan nan nan   0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4760 nan nan nan nan   0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4761 0.181 0.000 0.000 0.819 1256500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4762 # C0   C3   N #Modified Confusion Matrix
4763 nan nan   nan #p00 p03 N0 for target C0=Cp
4764 nan nan   nan #p30 p33 N3 for target C3=Co
4765 nan nan   1606500 #PNT 1-PNT num-of-all-data
4766
4767 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g0 L7 3 2 4&
4768 tail ../result-speakerdetect/iconipl6expl_g0L7tr3Su2td4/nohup.out
4769 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=3;SiCs=2;tdR=4
4770 0.936 0.000 0.003 0.000 679000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4771 0.432 0.491 0.073 0.004 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4772 0.001 0.048 0.605 0.346 28000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4773 0.000 0.005 0.027 0.967 833000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4774 # C0   C3   N #Modified Confusion Matrix
4775 1.000 0.000 644700 #p00 p03 N0 for target C0=Cp
4776 0.000 1.000 815227 #p30 p33 N3 for target C3=Co
4777 0.065 0.935 1561000 #PNT 1-PNT num-of-all-data
4778
4779 nohup sh ~/sotu/2015/can2b/sh/iconipl6expl.sh g1 L7 3 2 4&
4780 tail ../result-speakerdetect/iconipl6expl_g1L7tr3Su2td4/nohup.out
4781 # C0   C1   C2   C3   n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=3;SiCs=2;tdR=4
4782 0.957 0.000 0.004 0.000 679000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4783 0.217 0.534 0.240 0.008 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4784 0.002 0.163 0.570 0.265 28000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4785 0.000 0.002 0.035 0.963 833000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4786 # C0   C3   N #Modified Confusion Matrix
4787 1.000 0.000 654528 #p00 p03 N0 for target C0=Cp
4788 0.000 1.000 809655 #p30 p33 N3 for target C3=Co
4789 0.062 0.938 1561000 #PNT 1-PNT num-of-all-data
4790

```
4791 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L7 0 2 0&
4792 tail ../result-speakerdetect/iconip16expl_g0L7tr0Su2td0/nohup.out
4793 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=0:SiCs=2:tdR=0
4794 0.969 0.000 0.000 0.031 700000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4795 nan nan nan nan       0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4796 nan nan nan nan       0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4797 0.032 0.000 0.000 0.968 871500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4798 # C0    C1    C2    C3      N #Modified Confusion Matrix
4799 nan nan nan #p00 p03 N0 for target C0=Cp
4800 nan nan #p30 p33 N3 for target C3=Co
4801 nan nan 1571500 #PNT 1-PNT num-of-all-data
4802
4803 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L7 0 2 0
4804 tail ../result-speakerdetect/iconip16expl_g1L7tr0Su2td0/nohup.out
4805 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=0:SiCs=2:tdR=0
4806 0.963 0.000 0.000 0.037 700000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4807 nan nan nan nan       0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4808 nan nan nan nan       0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4809 0.043 0.000 0.000 0.957 871500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4810 # C0    C1    C2    C3      N #Modified Confusion Matrix
4811 nan nan nan #p00 p03 N0 for target C0=Cp
4812 nan nan #p30 p33 N3 for target C3=Co
4813 nan nan 1571500 #PNT 1-PNT num-of-all-data
4814
4815 export wp0=2660 wp1=840 wp2=910 wp3=1155; #weight of posterior distribution of probabilistic predict
4816 ion for L1-sequence
4817 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L1 3 2 4
4818 tail ../result-speakerdetect/iconip16expl_g0L1tr3Su2td4/nohup.out
4819 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=3:SiCs=2:tdR=4
4820 0.890 0.034 0.023 0.054 266000 266 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4821 0.689 0.172 0.041 0.097 84000 84 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4822 0.046 0.003 0.310 0.641 91000 91 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4823 0.002 0.000 0.005 0.993 1155000 1155 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4824 # C0    C1    C2    C3      N #Modified Confusion Matrix
4825 0.929 0.071 317128 #p00 p03 N0 for target C0=Cp
4826 0.005 0.995 1.21174e+06 #p30 p33 N3 for target C3=Co
4827 0.042 0.958 1596000 #PNT 1-PNT num-of-all-data
4828
4829 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1 3 2 4
4830 tail ../result-speakerdetect/iconip16expl_g1L1tr3Su2td4/nohup.out
4831 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=3:SiCs=2:tdR=4
4832 0.901 0.035 0.011 0.053 266000 266 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4833 0.459 0.268 0.105 0.167 84000 84 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4834 0.066 0.172 0.095 0.667 91000 91 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4835 0.000 0.004 0.002 0.993 1155000 1155 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4836 # C0    C1    C2    C3      N #Modified Confusion Matrix
4837 0.908 0.092 306348 #p00 p03 N0 for target C0=Cp
4838 0.005 0.995 1.21362e+06 #p30 p33 N3 for target C3=Co
4839 0.048 0.952 1596000 #PNT 1-PNT num-of-all-data
4840
4841 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1&
4842
4843
4844 DTCt=2;
4845
4846 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g0 L1&
4847 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=2:SiCs=2:tdR=4
4848 0.727 0.220 0.050 0.003 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4849 0.311 0.583 0.100 0.007 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4850 0.029 0.040 0.780 0.151 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4851 0.001 0.014 0.078 0.907 1186500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4852 # C0    C1    C2    C3      N #Modified Confusion Matrix
4853 0.995 0.005 232428 #p00 p03 N0 for target C0=Cp
4854 0.003 0.997 1.08805e+06 #p30 p33 N3 for target C3=Co
4855 0.173 0.827 1596000 #PNT 1-PNT num-of-all-data
4856 nohup sh ~/sotu/2015/can2b/sh/iconip16expl.sh g1 L1&
4857 tail ../result-speakerdetect/iconip16expl_g1L1/nohup.out
4858 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=2:SiCs=2:tdR=4
4859 0.780 0.142 0.074 0.004 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4860 0.131 0.537 0.324 0.008 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4861 0.011 0.300 0.541 0.149 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4862 0.000 0.006 0.115 0.880 1186500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4863 # C0    C1    C2    C3      N #Modified Confusion Matrix
4864 0.993 0.007 238280 #p00 p03 N0 for target C0=Cp
4865 0.001 0.999 1.05364e+06 #p30 p33 N3 for target C3=Co
4866 0.191 0.809 1596000 #PNT 1-PNT num-of-all-data
4867 nohup sh ~/sotu/2015/can2b/sh/iconip16expl_g0L7/nohup.out
4868 tail ../result-speakerdetect/iconip16expl_g0L7/nohup.out
4869 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=2:SiCs=2:tdR=4
4870 0.935 0.060 0.005 0.000 686000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4871 0.255 0.636 0.104 0.004 14000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
```

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4872 0.001 0.063 0.718 0.218 17500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4873 0.000 0.005 0.032 0.962 843500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4874 # C0    C3      N #Modified Confusion Matrix
4875 1.000 0.000 645036 #p00 p03 N0 for target C0=Cp
4876 0.000 1.000 815280 #p30 p33 N3 for target C3=Co
4877 0.065 0.935 1561000 #PNT 1-PNT num-of-all-data
4878 tail ../result-speakerdetect/iconip16expl_g1L7/nohup.out
4879 # C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=2:SiCs=2:tdR=4
4880 0.952 0.043 0.005 0.000 686000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
4881 0.129 0.561 0.285 0.025 14000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
4882 0.002 0.233 0.561 0.204 17500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
4883 0.000 0.010 0.022 0.969 843500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
4884 # C0    C3      N #Modified Confusion Matrix
4885 0.999 0.001 655228 #p00 p03 N0 for target C0=Cp
4886 0.000 1.000 820956 #p30 p33 N3 for target C3=Co
4887 0.054 0.946 1561000 #PNT 1-PNT num-of-all-data
4888
4889 prog=speakerdigit_v8: make $prog
4890 make ; make data-clean
4891 ########################################################
4892 ############ copy and paste from here for (1)
4893 ######################## use only gibbs:1:1:1(GEBI) gibbs:1:1:0(BI), see  20160125 [a]-
4894 dlo=../result-speakerdetect; if [ ! -e $dlo ]; then mkdir $dlo:.fi
4895 dl=$dlo/iconip16figla; if [ ! -e $dl ]; then mkdir $dl:.fi
4896 ##d2=/media/sf_D_DRIVE/cdata/15iconip/2015i0917takeguchi/12voicedata_sakashita/allpole:d
4897 2sep="_"
4898 ###d2=/media/sf_D_DRIVE/cdata/15iconip/2015i0917takeguchi/12voicedata_sakashita/allpole;d2sep="_"
4899 ###d2=~/sotu/2015iconip/2015i005sakashita/:d2sep="_"
4900 ###d2=~../../2012/12voicedata/iconip_saigen/2012/12voicedata/:d2sep="_"
4901 ###d2=~../../2012/12voicedata/iconip14data:d2sep=":"
4902 d2=~/sotu/2012/12voicedata/allpole:d2sep=":"
4903 tmp=./tmp:if [ ! -e $tmp ]; then mkdir $tmp:fi
4904 ### Main variables for Tuning from here #####################
4905 export gibbs=gibbs:1:1:0:10     ##### use only gibbs:1:1:1(GEBI) gibbs:1:1:0(BI), see  20160125 [a]-[
4906 e] ##beta=beta:0.5:0.3  ##### tune this,
4907 export gibbs=gibbs:1:1:0.3  ##### tune this,     ##### use BI
4908 ] ##beta=beta:0.5:0.3  ##### tune this,     ##### use only gibbs:1:1:1(GEBI) gibbs:1:1:0(BI), see  20160125 [a]-[e
4909 export gibbs=gibbs:1:0.2:0     ##### use BI
4910 -[e] ##beta=beta:0.5:0.3  ##### tune this,
4911 export DTCt=2;#DTCt=0:DTCt=4;     #transient for
4912 export SiCs="2"; ###for 3:Unregistered, 2:Incorrect  SiCs="0 3 2"; #depnds on speakerdigit_v6.c test
4913 :7:..;$iCs:...
4914 n export wp0=100 wp1=100 wp2=100 wp3=100: #weight of posterior distribution of probabilistic predictio
4915 export wp0=2660 wp1=840 wp2=910 wp3=1155: #weight of posterior distribution of probabilistic predict
4916 ion
4917 export DTCoCp=30,20:30,20:30,20:30,20:30,20:30,20:20 ##DTCoCp=30,20:20,15:20,10:20,5:2
4918 0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #TP0.949 FN0.051 fig1
4919 0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #TP0.87 FN0.13
4920 0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #NG! FN0.5?
4921 CoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #usethis
4922 export tdR=4:#20160228 introduced for delayed detection  時刻との入力の影響は t+tdR時刻に現れると仮定
4923 ### Main variables for Tuning to here #####################
4924 resultsum=$dl/resultsum
4925 psdsum=$dl/psdsum
4926 testsdsum=$dl/testsdsum
4927 cat /dev/null > ${resultsum}.dat
4928 cat /dev/null > ${psdsum}.dat
4929 cat /dev/null > ${testsdsum}.dat
4930 fhg=$dl/histSpeaker:cat /dev/null > $fhg.dat #Initialize
4931 for iCs in $SiCs; do
4932 f test-7:.....
4933 for sX in 0 1 2 3 4 5 6; do sP=-1;
4934 if [ "$d2sep" = ":" ]; then #ytm:1:0.9:1000 or ytm:1:0.9:2000
4935 cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
4936 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:3:30,20:15:20,10:20,5:20 sX:$sX sP:$sP void:0"
      s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:3:30,20:15:20,10:20,5:20 sX:$sX sP:$sP void:0"
      ; #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
```

```
s   ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:20:20:20:20 sX:$sX sP:$sP void:0";
4936  #cmd=~$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s   $beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:-$sX sP:$sP void:0";
4937  else
4938  cmd=~$prog fs:${d2}/oob4s_-1N40mbas2_300_1.6_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
$beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0"; ${tes
dev/null
4939  fi
4940  echo "Exec $cmd";$cmd > /dev/null
4941  cat $tmp/testsd_stat.dat >> ${resultsum}.dat
4942  echo -e "\n" >> ${resultsum}.dat            <== mean,UC of pG
4943  cat $tmp/psd.dat >> ${psdsum}.dat #########            <== t,test#,pGC,pGCd,sX pG for all tests for speaker
4944  cat tmp/testsd.dat |awk 'BEGIN{d=0;}{if(substr($1,1,3)=="###") d=1;}else print $0;}'> ${tes
tsdsum}.dat
4945  #echo "###wc psdsum.dat tmp/psd.dat"
4946  #wc psdsum.dat tmp/psd.dat
4947  done #for sX excluded speaker            #done #LoopLevel2:for sX_ in 0 1 2 3 4 5
6;
4948  done   # for iCs            #done #LoopLevel1:for iCs $SiCs;
4949  ##########################################
4950  ###############################################
4951  ## obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGC[n][t
](pGs),(4)test->pGCd[n][t](pGd),(5)sX
4952  ##########################################
4953  ###show t vs. pG of resultsum.dat
4954  fntpG="$dl/t-pGmean"
4955  fntpG-"$dl/t-pGmean"
4956  gnuplot <<EOF
4957  set term tgif;set output "$fntpG.obj";plot "${resultsum}.dat" using 1:2:(\$2-\$4):(\$2+\$5) w errorb
ars, "" using 1:2 w 1 lc rgb "blue"
4958  quit
4959  set term postscript;set output "$fntpG.eps";replot
4960  EOF
4961  ### the following takes a lot of time to display via gnuplot
4962  cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
4963  ##(1) 各テストにおけるt-pG曲線の表示 (2つの角度からの表示) ;10テスト毎に間引きを
4964  cat ${testsdsum}.dat | awk 'BEGIN{l=0;t=0;n=1;}{if(substr($1,1,1)=="n"){n++;printf("\n");} else {1+
+/match($2,"t.*"):t=substr($2,RSTART+1,RSTART+3); if(n&10=0) print n,t,$3;}}' > ${dl}/tpG.dat
4965  gnuplot <<EOF
4966  set xlabel "test"; set ylabel "t"; set zlabel "pG"
4967  set view 21,73
4968  set term tgif;set output "$dl/tpG1.obj";splot "$dl/tpG.dat" using 1:2:3 w 1
4969  set term postscript;set output "$dl/tpG1.eps";replot
4970  set view 16,108
4971  set term tgif;set output "$dl/tpG2.obj";splot "$dl/tpG.dat" using 1:2:3 w 1
4972  set term postscript;set output "$dl/tpG2.eps";replot
4973  quit
4974  EOF
4975  ### the following takes a lot of time to display via gnuplot
4976  cmd="gv $dl/tpG1.eps"; echo "Exec $cmd."; $cmd&
4977  cmd="gv $dl/tpG2.eps"; echo "Exec $cmd."; $cmd&
4978  ################
4979  export Ctotp= cat tmp/Ctotp.dat`            ###???
4980  ################################################
4981  #[2] 時刻、C[n]:クラスとto,tp,pの開始時刻
4982  ## making training histogram for probabilistic prediction
4983  ## class Cp: prompted speaker's digits, Co:other speaker's, Ct:transient
4984  ## generate  (0)$dl/resultp_Cto.dat,
4985  ##          (1)$dl/resultp_Co.dat,
4986  ##          (2)$dl/resultp_Ctp.dat,
4987  ##          (3)$dl/resultp_Cp.dat.
4988  ###############################################
4989  ###############################################
4990  #for CpG in "p" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel1: for CpG
4991  export CpG
4992  fb0=C$`{CpG}
4993  fbr=${dl}/resultp_${fb0}
4994  ####
4995  #Why donot we suppose predict 3 steps before
4996  #$l=t
4997  ####
4998  ##$l:時刻、C[n]:クラスto,tp,pの開始時刻
4999  ## 時刻tの入力のクラスはt+tdR時刻に判断する
5000  cat /dev/null > ${fb0}.dat ;cat $psdsum.dat |
5001  awk 'BEGIN{CpG=ENVIRON["CpG"];Ctotp=ENVIRON["Ctotp"];nmax=split(Ctotp,C);tdR=ENVIRON["tdR"];}{
5002  if($1>tdR){
5003  for(n=1;n<=nmax;n++){
5004  if($1<C[n]+tdR){
5005  n4=(n-1)%4;
5006  if((CpG=="to" && n4==0)||
5007  (CpG=="o"  && n4==1))||
```

```
5008              (CpG=="tp" && n4==2)||
5009              (CpG=="p"  && n4==3)) {print $3,$0;}
5010  break;
5011      }
5012  }
5013  }' >> ${fb0}.dat ; #pG, t,
5014  cmd1="cp ${fb0}.dat ${fbr}.dat"
5015  echo $cmd1;$cmd1
5016  #nd=`wc ${fb0}.dat|awk '{print $1}'`; nd=`wc psdsum.dat|awk '{print $1}'`
5017  cat ${fbr}.dat|awk 'BEGIN{l=0;}{if(l+*%2==0) print $0;}' >> ${fbr}_PPtrain.dat
5018  #nd0=`expr $nd / 7 / 2`
5019  #echo "#nd=$nd,nd0=$nd0"
5020  cat /dev/null > ${fbr}_PPtrain.dat ##PP:Probabilistic Prediction
5021  cat /dev/null > ${fbr}_PPtest.dat
5022  cat ${fbr}.dat|awk 'BEGIN{l=0;}{if(l+*%2==0) print $0;}' >> ${fbr}_PPtrain.dat
5023  cat ${fbr}.dat|awk 'BEGIN{l=0;}{if(l+*%2==1) print $0;}' >> ${fbr}_PPtest.dat
5024  #for sX_ in 0 1 2 3 4 5 6; do
5   6;
5025  #export sX_0=`expr $sX_ \* $nd0 \* 2`
5026  #sed -n -e ",expr ${sX_0} + 1',expr ${sX_0} + $nd0 p" ${fbr}.dat >> ${fbr}_PPtrain.dat
5027  #sed -n -e ",expr ${sX_0}',expr ${sX_0} + 1',`expr ${sX_0}` + $nd0 \* 2 p" ${fbr}.dat >> ${fbr}_PPtest.dat
2  3  4  5   6:
5028  #done #for sX_            #Done:LoopLeve2:for sX_ in 0 1
5029  #[2-2]
5030  ##################################################
5031  ### Likelihood P(c_i|p_G) for Probabilistic Prediction
5032  ### Histgram by moving average of each class?
5033  ### export wp0=100 wp1=100 wp2=100 wp3=100; #weight of posterior distribution of probabilistic predicti
on
5034  #export wp0=100 wp1=100 wp2=100 wp3=100 nmav=3
5035  export x0=0 ndiv=100 nmav=3
5036  cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
5037  echo $cmd; $cmd
5038  fhe=${dl}/hist-C${CpG}
5039  cp $tmp/hist.eps $fhe.eps
5040  #gv $fhe.eps& #disp result
5041  cp $fhg.dat $tmp/histtmp.dat
5042  cat tmp/hist.dat |awk '{print $3}'> tmp/hist3.dat:paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat  #
##
5043  sleep 2;
5044  done #for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel1: for CpG
5045  #####################
5046  ############
5047  ### insert first column to be the value of pG, while 2,3,4 columns P(c_i|p_G) for c_i=Cp, Ct, Co, re
spectively
5048  fpdg=$dl/ProbDistSpeaker
5049  cp $fhg.dat $tmp/histtmp.dat;cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat:paste $tmp/histtmp.da
t tmp/hist1.dat > $fhg.dat ###
5050  cat /dev/null > $fpdg.dat
5051  #cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"]
;}[p0=$1*wp0:p1=$2*wp1:p2=$3*wp2:p3=$4*wp3;psum=p0+p1+p2+p3;
5052  #cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"]
;}[p0=$1*wp0:p1=$2*wp1:p2=$3*wp2:p3=$4*wp3;psum=p0+p1+p2+p3;
5053  }[p0=$1*wp0:p1=$2*wp1:p2=$3*wp2:p3=$4*wp3;psum=p0+p1+p2+p3;
5054  cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"];
if(psum=0){p0=p1=p2=p3=1;psum=4;}
5055  printf("%e %e %e\n",$5,p0/psum,p1/psum,p2/psum,p3/psum);}' >> $fpdg.dat
5056  }' >> $fpdg.dat
5057  ##cat $fhg.dat|awk '{p0sum=$1:p1sum=$2:p2sum=$3;psum=p0sum+p1sum+p2sum;printf("%e %e %e\n",$4, p0
sum,plsum,p2sum,p2sum/psum);}' >> $fpdg.dat
5058  #[3]
5059  ##################################################
5060  ### Show Likelihood P(c_i|p_G), and p(p_G)
5061  ##################################################
5062  gnuplot <<EOF
5063  set yrange [0:1.3]; set style data boxes; #set style data histeps
5064  set style fill solid border lc rgb "black"
5065  set term tgif;set output "$fpdg.obj"
5066  plot "$fpdg.dat" using 1:(\$2+\$3+\$4+\$5) lc rgb "blue" t "PromptedSpeaker", "" using 1:(\$3+\$4+\$
5:(\$5) lc rgb "green" t "TransientPrompted", "" using 1:(\$4+\$5) lc rgb "yellow" t "TransientOther", "" using 1
:(\$5) lc rgb "red" t "Other"
5067  set term postscript:set output "$fpdg.eps":replot
5068  set term postscript:set output "$fpdg-pGdist.eps":plot "$fhg.dat" using 5:(\$1+\$2+\$3+\$4) lc rgb "
green" t "p(p_G)"
5069  quit
5070  EOF
5071  ###show
5072  cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&            #show p(c_i|p_G)
5073  cmd="gv $fpdg-pGdist.eps"; echo "Exec $cmd."; $cmd& #show& #show p(pG)
```

```
5077  #[4]
5078  ##########################################
5079  ## evalloss
5080  ##########################################
5081  d0=~/sotu/2015/can2b
5082  fpdg=$dl/ProbDistSpeaker #defined above
5083  foutall=pGall:cat /dev/null > ${foutall}.output   ###all
5084  ftgtall=Ctgtall:cat /dev/null > ${ftgtall}.target
5085  for CpG in "p" "tp" "to" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel: for CpG
5086  if [ $CpG = "p" ] ; then export Ctgt=0; fi #prompted speaker
5087  if [ $CpG = "tp" ] ; then export Ctgt=1; fi #transient of prompted speaker
5088  if [ $CpG = "to" ] ; then export Ctgt=2; fi #transient of other speaker
5089  if [ $CpG = "o" ] ; then export Ctgt=3; fi #other speaker
5090  fout=pG${CpG};cp ${dl}/resultp_C${CpG}_PPrest.dat ${fout}.output;#
5091  export ntest=`wc ${fout}.output|awk '{print $1}'`
5092  export ftgt=C${Ctgt};
5093  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.
target #mktarget $Ctgt $ntest > ${ftgt}.target
5094  cmd="evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo -n "#${cmd}##";$cmd
5095  cat ${fout}.output >> ${foutall}.output   ###all
5096  cat ${ftgt}.target >> ${ftgtall}.target   ###all
5097  done #for CpG in "p" "tp" "to" or o  #LoopLevel: for CpG
r), to(transient of other)  #LoopLevel: for CpG
5098  cmd="evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:0.5:0";echo -n "#${cmd}##
";$cmd
5099  ##########################################
5100  #[5]
5101  ##########################################
5102  ## evalloss for confusion matrix
5103  ##########################################
5104  d0=~/sotu/2015/can2b
5105  fpdg=$dl/ProbDistSpeaker #defined above
5106  foutall=pGall:cat /dev/null > ${foutall}.output   ###all
5107  ftgtall=Ctgtall:cat /dev/null > ${ftgtall}.target
5108  ##                                                              ###all
5109  cat /dev/null > cfm.dat
5110  for Ctgt in 0 1 2 3; do #target class                             #LoopL
evel 0
5111  echo "#For Target Class $Ctgt, evall loss of p(prompted), t(transient), o(ther) data. "
5112  export Ctgt;
5113  for CpG in "p" "tp" "to" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel: for CpG
$cfm.dat  for CpG in p,t,o or o
5114  fout=p${CpG};cp ${dl}/resultp_C${CpG}_PPtest.dat ${fout}.output; #output file to be classified as C
${CpG}
5115  export ntest=`wc ${fout}.output|awk '{print $1}'`
5116  export ftgt=C${Ctgt};
5117  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.
target #mktarget $Ctgt $ntest > ${ftgt}.target
5118  #                                                                                     #LoopLev
el 0
5119  cmd="evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo -n "#${cmd}##";
5120  $cmd | awk '{print $2,$6;}' >> cfm.dat
5121  #
5122  cat ${fout}.output >> ${foutall}.output;
5123  cat ${ftgt}.target >> ${ftgtall}.target; ###all
5124  done #for CpG in "p" "tp" "to" or o ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel: for CpG
5125  done #for Ctgt                                                    #LoopLev
el 0
5126  #
5127  echo "#${gibbs}:DTCt=$DTCt:SiCs=$SiCs";
5128  cat cfm.dat | awk 'BEGIN{DTCt=ENVIRON["DTCt"];SiCs=ENVIRON["SiCs"];tdR=ENVIRON["tdR"];}
p3"];
5129  gibbs=ENVIRON["gibbs"];DTCt=ENVIRON["DTCt"];SiCs=ENVIRON["SiCs"];tdR=ENVIRON["w
5130  {p[1]=$1:n[1]=$2:i++;}END{
5131  printf("\n# C0    C1    C2     C3     n  wpi #Confusion Matrix for %s:DTCt=%s:SiCs=%s:tdR=%s\n",gibb
s,DTCt,SiCs,tdR);
5132  printf("%.3f %.3f %.3f %.3f %6d %g #p00 p01 p02 p03 n0 wp0 for target C0=Cp\n", 1-p[0],1-p[4],1-p[8]
,1-p[12],n[0],wp0);
5133  printf("%.3f %.3f %.3f %.3f %6d %g #p10 p11 p12 p13 n1 wp1 for target C1=Ctp\n",1-p[1],1-p[5],1-p[9]
,1-p[13],n[1],wp1);
5134  printf("%.3f %.3f %.3f %.3f %6d %g #p20 p21 p22 p23 n2 wp2 for target C2=Cto\n",1-p[2],1-p[6],1-p[10]
,1-p[14],n[2],wp2);
5135  printf("%.3f %.3f %.3f %.3f %6d %g #p30 p31 p32 p33 n3 wp2 for target C3=Co\n", 1-p[3],1-p[7],1-p[11]
,1-p[15],n[3],wp3);
5136  nsum=n[0]+n[1]+n[2]+n[3];
5137  P00=(1-p[0])*n[0]+(1-p[1])*n[1];
5138  P03=(1-p[12])*n[0]+(1-p[13])*n[1];
5139  P0T=1-P00-P03;
5140  N0=P00+P03+P00/P00/;P03/=N0;
5141  P30=(1-p[3])*n[2]+(1-p[3])*n[3];
5142  P33=(1-p[14])*n[2]+(1-p[15])*n[3];
```

```
5143  N3=P30+P33:P33/=N3;P30/=N3;
5144  P3T=1-P30-P33;
5145  NT=nsum-N0-N3;
5146  printf("#    C0        C3        N #Modified Confusion Matrix\n");
5147  printf("%.3f  %.3f       %g #p00 p03 N0 for target C0=Cp\n",P00,P03,N0);
5148  printf("%.3f  %.3f       %g #p30 p33 N3 for target C3=Co\n",P30,P33,N3);
5149  printf("%.3f  %.3f  %6.0f #PNT 1-PNT num-of-all-data\n",P3T,P30,1-NT/nsum,1-NT/nsum,nsum);
5150  }';
5151  ##########################################
5152  ########## copy and paste to here for (1)
5153  ##########################################
5154  ##########################################
5155  export DTCoCp=30,20:30,15:30,10:30,5:30,20:30,15:20,10:20,5:20#DT
CoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo  #usethis
5156  #    C0    C1    C2     C3     n  wpi #Confusion Matrix for gibbs:1:1:0.3:50:DTCt=2:SiCs=2:tdR=4
5157  0.784 0.142 0.067 0.007 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5158  0.172 0.536 0.279 0.013  56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5159  0.011 0.278 0.514 0.197  59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5160  0.000 0.009 0.112 0.879 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5161  #    C0        C3        N #Modified Confusion Matrix
5162  0.989 0.011           242914 #p00 p03 N0 for target C0=Cp
5163  0.001 0.999           747660 #p30 p33 N3 for target C3=Co
5164  0.205 0.795          1246000 #PNT 1-PNT num-of-all-data
5165
5166  #    C0    C1    C2     C3     n  wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=2:SiCs=2:tdR=4
5167  0.815 0.106 0.067 0.012 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5168  0.129 0.518 0.325 0.028  56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5169  0.026 0.324 0.427 0.223  59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5170  0.000 0.009 0.099 0.892 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5171  #    C0        C3        N #Modified Confusion Matrix
5172  0.980 0.020           251930 #p00 p03 N0 for target C0=Cp
5173  0.002 0.998           760974 #p30 p33 N3 for target C3=Co
5174  0.187 0.813          1246000 #PNT 1-PNT num-of-all-data
5175
5176  #    C0    C1    C2     C3     n  wpi #Confusion Matrix for gibbs:1:1:0.3:500:DTCt=2:SiCs=2:tdR=4
5177  0.732 0.100 0.143 0.025 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5178  0.000 0.854 0.074 0.072  56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5179  0.072 0.174 0.577 0.177  59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5180  0.001 0.099 0.050 0.850 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5181  #    C0        C3        N #Modified Confusion Matrix
5182  0.950 0.050           226590 #p00 p03 N0 for target C0=Cp
5183  0.007 0.993           726677 #p30 p33 N3 for target C3=Co
5184  0.235 0.765          1246000 #PNT 1-PNT num-of-all-data
5185
5186
5187  #[1]
5188  #prog=speakerdigit_v6: make $prog
5189  #prog=speakerdigit_v7: make $prog
5190  make ; make data-clean
5191  dlo=~./result-speakerdetect; if [ ! -e $dlo ]; then mkdir $dlo:fi
5192  dl=$dlo/iconip16figla; if [ ! -e $dl ]; then mkdir $dl:fi
5193  ##dl2=/media/sf_D_DRIVE/cdata/15iconip/2015091 7takeguchi/12voicedata_sakashita/12voicedata/allpole:d
2sep=" "
5194  20160227
5195
5196  #[1]
5197  speakerdigit_v6.c   pG->C[t]=pow(pG->C[t_1],beta[0])*pow(LC,1);
5198  speakerdigit_v7.c   if(pG->C[t]>pmaxt||pG->C[t]<pmint||pG->iC[t]>pmaxt||pG->iC[t]<pmint) if(t_1-t
_0>200){
5199  t_0=t_1;
5200  speakerdigit_v8.c use logit function <<<<***********
5201  ###d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/.d2sep="_"
5202  ###d2=../../2012/12voicedata/iconip_saigen/2012/12voicedata/allpole:d2sep=":"
5203  ###d2=../../2012/12voicedata/iconip14data/d2sep=":"
5204  d2=~/sotu/2012/15iconip/iconip16figla/allpole:d2sep=":"
5205  tmp=./tmp/if [ ! -e $tmp ]; then mkdir $tmp:fi
5206  ##### Main variables for Tuning from here ##################
5207  export gibbs=gibbs:1:1:0:10       #### use only gibb:1:1:1(GEBI) gibbs:1:1:0(BI), see 20160125 [a]-[
e] #beta=beta:0.5:0.3   ## tune this,
5208  export gibbs=gibbs:1:1:0.3       ##### use only gibb:1:1:1(GEBI) gibbs:1:1:0(BI), see 20160125 [a]-[e
] ##beta=beta:0.5:0.3 ##### tune this,
5209  export gibbs=gibbs:1:1:0.2:0     ##### use BI
5210  export gibbs=gibbs:1:1:0.3:100   ##### use only gibb:1:1:1(GEBI) gibbs:1:1:0(BI), see 20160125 [a
]-[e] #beta=beta:0.5:0.3 ##### tune this,
5211  export DTCt=2;DTCt=0:DTCt=4;                            #transient for
5212  export SiCs=2"; ###for 3:Unregistered, 2:Incorrect SiCs="0 3 2"; #depnds on speakerdigit_v6.c test
:7:.:$iCs:...
5213  export wp0=100 wp1=100 wp2=100 wp3=100: #weight of posterior distribution of probabilistic predictio
```

```
n
5218  export DTCoCp=30,20:30,20:30,20:30,20:30,20:30,20:30,20:30,20:20 ##DTCoCp=30,20:20,15:20
,10:20,5:20#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo
5219  export DTCoCp=30,20:20,20:20,20:20,20:20,20:20,20:20 ##DTCoCp=30,20:20,15:20,10:20,5:20#DTCoCp=TCo1,
TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo
3,TCp3:...:TCo
5220  export DTCoCp=30,20:20,15:20,10:20 ##DTCoCp=30,20:20,15:20,10:20,5:20DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo
5221  export DTCoCp=30,5:30,5:30,5:30,5:30,5:30,5:30,5:30,5:20 ##DTCoCp=30,20:20,15:20,10:20,15:20,5:2
0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo TP0.949 FN0.051 fig1
5222  export DTCoCp=30,5:30,4:30,4:30,4:30,4:20 ##DTCoCp=30,20:20,15:20,10:20,15:20,5:2
0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo TP0.87 FN0.13
5223  export DTCoCp=30,5:30,3:30,3:30,3:30,3:30,3:20 ##DTCoCp=30,20:20,15:20,10:20,15:20,5:2
0#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #NG! FN0.5?
CoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:...:TCo #usethis
5224  export DTCoCp=30,20:30,10:5,30,10:30,10:30,10:5,20 ##DTCoCp=30,20:20,15:20,10:20,5:20#DT
5225  #### tdR=4 #20160228 introduced for delayed detection  時刻tの入力の影響はt+tdR時刻に現れると仮定
5226  #### Main variables for Tuning to here ###################  ###??
5227  cat /dev/null > resultsum.dat
5228  cat /dev/null > psdsum.dat
5229  cat /dev/null > testsdsum.dat
5230  fhg=$tmp/histSpeaker:cat /dev/null > $fhg.dat #Initialize
5231  for iCs in $SiCs; do
f test:7:...
5232  for sX in 0 1 2 3 4 5 6; do sP=-1;                        #LoopLevel2:for sX in 0 1 2 3 4 5 6;
5233  if [ "$d2sep" = ":" ]; then #ytm=1:0.9:1000 or ytm=1:0.9:2000
ver:-2 pApAd:${pAs}:${pAd}/oob4s:-1N40mbas:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
5234  cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 test:8:1000:$iCs:${DTCoCp} sX:$sX sP:$sP void:0";
ver:-2 pApAd:${pAs}:${pAd}/oob4s:-1N40mbas:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
5235  #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 test:8:2000:$iCs:${DTCoCp} sX:$sX sP:$sP void:0"
s ver:-2 pApAd:${pAs}:${pAd}/oob4s:-1N40mbas:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
;
5236  #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 test:8:1000:$iCs:${DTCoCp} sX:$sX sP:$sP void:0"
s ver:-2 pApAd:${pAs}:${pAd}/oob4s:-1N40mbas:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:20 pmin:0.01 ytm:1:0.9:1000 $gibb
s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}
5237  #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s $beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";
$beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";$cmd > /
5238  else
5239  cmd="$prog fs:${d2}/oob4s:-1N40mbas2_300_1.6_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
$beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs} 0:20:100:20:2 sX:$sX sP:$sP void:0";$cmd > /
dev/null
5240  fi
5241  echo "Exec $cmd";$cmd > /dev/null
5242  cat $tmp/testsd_stat.dat >> resultsum.dat
5243  echo -e "\n" >> resultsum.dat ######### <= mean,UC of pG
5244  cat $tmp/psd.dat >> psdsum.dat ############ <= t,test#,pGC,pGCd,sX pG for all tests for speaker
5245  cat tmp/testsd.dat |awk 'BEGIN{d=0;}{if(d==0){if(substr($1,1,3)=="###") d=1;}else print $0;}'> tmp/t
estsdsum.dat
5246  #echo "###wc psdsum.dat tmp/psd.dat"
5247  #wc psdsum.dat tmp/psd.dat
5248  done #for sX excluded speaker                                #done #LoopLevel2:for sX in 0 1 2 3 4 5
6;
5249  done # for iCs                                              #done #LoopLevel1:for iCs $SiCs;
5250  ##########################################
5251  ##########################################
5252  ## obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGCln|t
1(pGd),(4)test->pGCd[n|t|t|pGd),(5)sX
5253  ##########################################
5254  ##########################################
5255  ##show t vs. pG of resultsum.dat
5256  fntpG="$d1/t-pGmean"
5257  gnuplot <<EOF
5258  set postscript:set output "$fntpG.eps";
5259  plot "resultsum.dat" using 1:2:($2-$4):(\$2+\$5) w errorbars, "" using 1:2 w l lc rgb "blue"
5260  quit
5261  EOF
5262  ## the following takes a lot of time to display via gnuplot
5263  cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
5264  ##(1) 各データに対応する t-p曲線の表示(2つの角度からの表示) ;10テスト毎に間引き
5265  cp tmp/testsdsum.dat $d1/
5266  cat tmp/testsdsum.dat | awk 'BEGIN{l=0:t=0:n=1;}{if(substr($1,1,1)=="n"){n++;printf("\n");} else {l
++;match($2,"t.",".");t=substr($2,RSTART+1,RSTART+3); if(n&l0==0) print n,t,$3;}}' > tmp/tpG.dat
5267  gnuplot <<EOF
5268  set xlabel "test"; set ylabel "t"; set zlabel "pG";
5269  set view 21,73
5270  set term tgif:set output "$d1/tpG1.obj":splot "tmp/tpG.dat" using 1:2:3 w l
5271  set term postscript:set output "tmp/tpG1.eps";replot
5272  set view 16,108
5273  set term tgif:set output "$d1/tpG2.obj":splot "tmp/tpG.dat" using 1:2:3 w l
5274  set term postscript:set output "tmp/tpG2.eps";replot
5275  quit
5276  EOF
5277  ## the following takes a lot of time to display via gnuplot
5278  cmd="gv tmp/tpG1.eps"; echo "Exec $cmd."; $cmd&
5279  cmd="gv tmp/tpG2.eps"; echo "Exec $cmd."; $cmd&
```

```
####################
5280  export Ctotp=`cat tmp/Ctotp.dat`
5281
5282  #[2]
5283  ##########################################
5284  ### making training histogram for probabilistic prediction
5285  ### class Cp: prompted speaker's digits, Co:other speaker's, Ct:transient
5286  ### generate  (0)$d1/resultp_Cto.dat,
5287  ###           (1)$d1/resultp_Co.dat,
5288  ###           (2)$d1/resultp_Ctp.dat,
5289  ###           (3)$d1/resultp_Cp.dat,
5290  ##########################################
5291  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG; p(prompted), tp(transient of prompted), o(other), to
(transient of other)   #LoopLevel1: for CpG
5292  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG; p(prompted), tp(transient of prompted), o(other), to
5293  export CpG
5294  fbo=C$(Cpo)
5295  fbr=$(d1}/resultp_$(fb0}
5296  #####
5297  #Why donot we suppose predict 3 steps before
5298  #$1=t
5299  ### $1:時刻, C]n]:クラスCpG=to,o,tp,pの開始時刻
5300  ### 時刻tの入力のクラスはt+tdR時刻に判断する
5301  cat /dev/null > ${fb0}.dat ;cat psdsum.dat |
5302  awk 'BEGIN{CpG=ENVIRON["cpG"];Ctotp=ENVIRON["Ctotp"];nmax=split(Ctotp,C);tdR=ENVIRON["tdR"];}{
5303  if($1>tdR){
5304  for(i=1;i<=nmax;i:n++){
5305  if($1<C[n]+tdR){
5306  n4=(n-1)*4;
5307  if((CpG=="to" && n4==0)||
5308  (CpG=="o" && n4==1)||
5309  (CpG=="tp" && n4==2)||
5310  (CpG=="p" && n4==3))  {print $3,$0;}
5311  break;
5312  }
5313  }
5314  }
5315  }',>> ${fb0}.dat ; #pG, t,
5316  cmd1="cp ${fb0}.dat ${fbr}.dat"
5317  echo $cmd1;$cmd1
5318  #nd=`wc ${fb0}.dat|awk '{print $1}'`; #nd=`wc psdsum.dat|awk '{print $1}'`
5319  #nd0=`wc ${fb0}.dat|awk '{print $1}'`; #nd=`wc psdsum.dat|awk '{print $1}'`
5320  #nd0=`expr $nd / 7 / 2`
5321  #echo "#nd=$nd,nd0=$nd0"
5322  cat /dev/null > ${fbr}_PPtrain.dat ##PP:Probabilistic Prediction
5323  cat /dev/null > ${fbr}_PPtest.dat
5324  cat ${fbr}.dat|awk 'BEGIN{l=0;}{if((l+*2==0)  print $0;}'  >> ${fbr}_PPtrain.dat
5325  cat ${fbr}.dat|awk 'BEGIN{l=0;}{if((l+*2==1)  print $0;}'  >> ${fbr}_PPtest.dat
5326  #for sX in 0 1 2 3 4 5 6: do                                #LoopLeve2:for sX_ in 0 1 2 3 4
5 6:
5327  #export sX_0=`expr $sX_ \* $nd0 \* 2`
5328  #sed -n -e '`expr $(sX_0) + 1`,`expr $(sX_0) + $nd0`p'  ${fbr}.dat >> ${fbr}_PPtrain.dat
5329  #sed -n -e '`expr $(sX_0}`,`expr $(sX_0) + $nd0 + 1`,`expr $(sX_0)`p' ${fbr}.dat >> ${fbr}_PPtest.dat
5330  #done #for sX_                                             #Done:LoopLeve2:for sX_ in 0 1
2 3 4 5 6:
5331  #[2-2]
5332  ##########################################
5333  ### Likelihood P(c_i|p_G) for Probabilistic Prediction
5334  ### Histgram by moving average of each class?
5335  #export wp0=100 wp1=100 wp2=100 wp3=100; #weight of posterior distribution of probabilistic predicti
on
5336  export wp0=100 wp1=100 wp2=100 wp3=100 nmav=3
5337  export x0=0 ndiv=100 nmav=3
5338  cmd="histmavl-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
5339  echo $cmd; $cmd
5340  fhe=$(d1}/hist-C${CpG}.eps
5341  cp $tmp/hist.eps $fhe
5342  #gv $fhe& #disp result
5343  cp $fhg.dat $tmp/histtmp.dat
5344  cat tmp/hist.dat |awk '{print $3}'> tmp/hist3.dat:paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat  #
##
5345  sleep 2;
5346  done #for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel1: for CpG
5347  #########
5348  ##########################################
5349  ### insert first column to be the value of pG, while 2,3,4 columns P(c_i|p_G) for c_i=Cp, Co, re
spectively
5350  cat tmp/hist.dat |awk '{print $3}'> tmp/hist1.dat:paste $tmp/histtmp.da
5351  fpdg=$d1/ProbDistSpeaker
5352  t tmp/hist1.dat > $fhg.dat ###
5353  cat /dev/null > $fpdg.dat
```

```
5354  #cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"]
;};{p0=$1*wp0;p1=$2*wp1;p2=$3*wp2;p3=$4*wp3;psum=p0+p1+p2+p3;
5355  if(psum>0) printf("%e %e %e %e\n",$5, p0/psum,p1/psum,p2/psum,p3/psum);}' >> $fpdg.dat
5356  #cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"];
}{p0=$1*wp0;p1=$2*wp1;p2=$3*wp2;p3=$4*wp3;psum=p0+p1+p2+p3;
5357  if(psum==0){p0=p1=p2=p3=1;psum=4;}
5358  printf("%e %e %e %e\n",$5, p0/psum,p1/psum,p2/psum,p3/psum);}' >> $fpdg.dat
5359
5360  #cat $fhg.dat|awk '{p0sum=$1;p1sum=$2;p2sum=$3;psum=p0sum+p1sum+p2sum;printf("%e %e %e\n",$4, p0
sum/psum,p1sum/psum,p2sum/psum);}' >> $fpdg.dat
5361  #[3]
5362  ###############################
5363  ### Show Likelihood P(c_i|p_G), and p(p_G)
5364  ###############################
5365  ###############################
5366  gnuplot <<EOF
5367  set yrange [0:1.3]; set style data boxes; #set style data histeps
5368  set style fill solid border lc rgb "black"
5369  set term tgif;set output "$fpdg.obj"
5370  plot "$fpdg.dat" using 1:(\$2+\$3+\$4+\$5) lc rgb "blue" t "PromptedSpeaker", "" using 1:(\$3+\$4+\$
5), lc rgb "green" t "TransientPrompted", "" using 1:(\$4+\$5) lc rgb "yellow" t "TransientOther", "" using 1
:(\$5) lc rgb "red" t "Other"
5371  set term postscript;set output "$fpdg.eps";replot
5372  set term postscript;set output "$fpdg-pdist.eps";plot "$fhg.dat" using 5:(\$1+\$2+\$3+\$4) lc rgb "
green" t "p(p_G)"
5373  quit
5374  EOF
5375  ###show
5376  cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&        #show p(c_i|p_G)
5377  cmd="gv $fpdg-pdist.eps"; echo "Exec $cmd."; $cmd&  #show p(pG)
5378  #[4]
5379  ###############################
5380  ## evalloss
5381  ###############################
5382  d0=~/sotu/2015/can2b
5383  fpdg=$d1/ProbDistSpeaker #defined above
5384  foutall=pGall;cat /dev/null > ${foutall}.output ###all
5385  ftgtall=Ctgtall;cat /dev/null > ${ftgtall}.target
5386  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)   #LoopLevel1: for CpG
5388  if [ $CpG = "p" ] ; then export Ctgt=0; fi #prompted speaker
5389  if [ $CpG = "tp" ] ; then export Ctgt=1; fi #transient of prompted speaker
5390  if [ $CpG = "to" ] ; then export Ctgt=2; fi #transient of other speaker
5391  if [ $CpG = "o" ] ; then export Ctgt=3; fi #other speaker
5392  fout=pG${CpG};cp ${d1}/resultp.C${Cpg}_PPtest.dat ${fout}.output;#
5393  export ntest=`wc ${fout}.output|awk '{print $1}'`
5394  export ftgt=C${Ctgt};
5395  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.target
5396  target #mktarget $Ctgt $ntest > ${ftgt}.target
5397  cat ${fout}.output >> ${foutall}.output; ###all
5398  cat ${ftgt}.target >> ${ftgtall}.target; ###all
5399  done #for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel1: for CpG
5400  cmd="evalloss4pG p:${fpdg}.dat t:${fpdg}.target o:${foutall}.output vth:0.5:0";echo -n "#${cmd}##";$cmd
";$cmd
5401  #[5]
5402  ###############################
5403  ## evalloss for confusion matrix
5404  ###############################
5405  ###############################
5406  d0=~/sotu/2015/can2b
5407  fpdg=$d1/ProbDistSpeaker #defined above
5408  foutall=pGall;cat /dev/null > ${foutall}.output ###all
5409  ftgtall=Ctgtall;cat /dev/null > ${ftgtall}.target
5410  ##
5411  cat /dev/null > cfm.dat
5412  for Ctgt in 0 1 2 3; do #target class                            #LoopL
5413  echo "#For Target Class $Ctgt, evall loss of p(rompted), t(ransient), o(ther) data. "
5414  export Ctgt:
5415  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel1: for CpG
5416  fout=pG${CpG};cp ${d1}/resultp.C${Cpg}_PPtest.dat ${fout}.output; #output file to be classified as C
${Ctgt} for CpG in p,t or o
5417  export ntest=`wc ${fout}.output|awk '{print $1}'`
5418  export ftgt=C${Ctgt}
5419  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.
target #mktarget $Ctgt $ntest > ${ftgt}.target
5420  cmd="evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo -n "#${cmd}##";
5421  cmd="evalloss4pG p:${fpdg}.dat t:${fpdg}.target o:${fout}.output vth:0.5:0";echo  "#${cmd}##";
```

```
5422  $cmd | awk '{print $2,$6;}' >> cfm.dat
5423
5424  cat ${fout}.output >> ${foutall}.output;
5425  cat ${ftgt}.target >> ${ftgtall}.target; ###all
5426  done #for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)   #LoopLevel1: for CpG
5427  done #for Ctgt
5428  #
5429  echo -n "#${gibbs};DTCt=$DTCt:SiCs=$SiCs";
5430  cat cfm.dat | awk 'BEGIN{i=0;wp0=ENVIRON["wp0"];wp1=ENVIRON["SiCs"];tdR=ENVIRON["tdR"];}
p3";
5431  gibbs=ENVIRON["gibbs"];DTCt=ENVIRON["DTCt"];SiCs=ENVIRON["SiCs"];tdR=ENVIRON["tdR"];}END{
5432  {p[i]=$1;n[i]=$2;i++;}END{
5433  printf("\n# C0    C1    C2    C3        n wpi #Confusion Matrix for %s:DTCt=%s:SiCs=%s:tdR=%s\n",gibb
s,DTCt,SiCs,tdR);
5434  printf("%.3f %.3f %.3f %.3f %g %p00 p01 p02 p03 n0 wp0 for target C0=Cp\n", 1-p[0],1-p[4],1-p[8]
,1-p[12],n[0],wp0);
5435  printf("%.3f %.3f %.3f %.3f %g %p10 p11 p12 p13 n1 wp1 for target C1=Ctp\n",1-p[1],1-p[5],1-p[9]
,1-p[13],n[1],wp1);
5436  printf("%.3f %.3f %.3f %.3f %g %p20 p21 p22 p23 n2 wp2 for target C2=Cto\n",1-p[2],1-p[6],1-p[10]
1,1-p[14],n[2],wp2);
5437  printf("%.3f %.3f %.3f %.3f %g %p30 p31 p32 p33 n3 wp2 for target C3=Co\n", 1-p[3],1-p[7],1-p[11]
],1-p[15],n[3],wp3);
5438  nsum=n[0]+n[1]+n[2]+n[3];
5439  P00=(1-p[0])*n[0]+(1-p[1])*n[1];
5440  P03=(1-p[12])*n[0]+(1-p[13])*n[1];
5441  P0T=1-P00-P03;
5442  N0=P00+P03;P00/=N0;P03/=N0;
5443  P30=(1-p[2])*n[2]+(1-p[3])*n[3];
5444  P33=(1-p[14])*n[2]+(1-p[15])*n[3];
5445  N3=P30+P33;P30/=N3;P33/=N3;
5446  P3T=1-P30-P33;
5447  NT=nsum-N0-N3;
5448  printf("# C0        C3        N  N#Modified Confusion Matrix\n");
5449  printf("%.3f %.3f       %g       %p00 p03 N0 for target C0=Cp\n",P00,P03,N0);
5450  printf("%.3f %.3f       %g       %p30 p33 N3 for target C3=Co\n",P30,P33,N3);
5451  printf("%.3f %.3f       %6.0f    %PNT 1-PNT num-of-all-data\n",N3);
5452  }';
5453  ###########copy and paste to here for (1)
5454  ###########################################################
5455  ###########################################################
5456  export DTCoCp=30,20:30,15:30,10:30,5:30,20:30,15:30,10:30,5:20  ##DTCoCp=30,20,15:20,10:20,5:20#DT
CoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:....:TCo    #usethis
5457  #with   if(fabs(test->logit(t))<=-test->lmax){
5458  # C0    C1    C2    C3        n wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=2:SiCs=2:tdR=4
5459  0.764 0.159 0.073 0.003 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5460  0.260 0.509 0.225 0.006 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5461  0.006 0.202 0.623 0.170 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5462  0.002 0.010 0.140 0.848 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5463  # C0        C3        N  N#Modified Confusion Matrix
5464  0.995 0.005     240394  #p00 p03 N0 for target C0=Cp
5465  0.003 0.997     721497  #p30 p33 N3 for target C3=Co
5466  0.228 0.772    1246000  #PNT 1-PNT num-of-all-data
5467  #saved in ../result-speakerdetect/iconipl6figla/
5468
5469  #  with if(fabs(test->logit(t))=test->lmax){
5470  # C0    C1    C2    C3        n wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=2:SiCs=2:tdR=4
5471  0.763 0.162 0.070 0.005 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5472  0.642 0.299 0.055 0.004 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5473  0.036 0.012 0.588 0.365 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5474  0.023 0.015 0.076 0.885 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5475  # C0        C3        N  N#Modified Confusion Matrix
5476  0.994 0.006     261968  #p00 p03 N0 for target C0=Cp
5477  0.027 0.973     783402  #p30 p33 N3 for target C3=Co
5478  0.161 0.839    1246000  #PNT 1-PNT num-of-all-data
5479
5480  # with if(fabs(test->logit(t))=test->lmax){
5481
5482  export DTCoCp=30,20:30,15:30,10:30,5:30,20:30,15:30,10:30,5:20  ##DTCoCp=30,20,15:20,10:20,5:20#DT
CoCp=TCo1,TCp1:TCo2,TCp2:TCo3,TCp3:....:TCo
5483  # C0    C1    C2    C3        n wpi #Confusion Matrix for gibbs:1:1:0.3:100:DTCt=2:SiCs=2:tdR=4
5485  0.764 0.159 0.073 0.003 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5486  0.260 0.509 0.225 0.006 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5487  0.006 0.202 0.623 0.170 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5488  0.002 0.010 0.140 0.848 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5489  # C0        C3        N  N#Modified Confusion Matrix
5490  0.995 0.005     240394  #p00 p03 N0 for target C0=Cp
5491  0.003 0.997     721497  #p30 p33 N3 for target C3=Co
5492  0.228 0.772    1246000  #PNT 1-PNT num-of-all-data
5493  # C0    C1    C2    C3        n wpi #Confusion Matrix for gibbs:1:1:0.25:DTCt=2:SiCs=2:tdR=4
```

```
5494 0.735 0.193 0.069 0.003 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5495 0.493 0.425 0.077 0.005 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5496 0.034 0.022 0.676 0.267 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5497 0.015 0.013 0.093 0.880 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5498                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.25:0:DTCt=2;SiCs=2;tdR=4
5499 0.995 0.005 244860 #p00 p03 N0 for target C0=Cp
5500 0.019 0.981 766577 #p30 p33 N3 for target C3=Co
5501 0.188 0.812 1246000 #PNT 1-PNT num-of-all-data
5502
5503 # C0    C1    C2    C3    N
5504 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.2:0:DTCt=2;SiCs=2;tdR=4
5505 0.729 0.219 0.049 0.003 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5506 0.311 0.589 0.094 0.005 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5507 0.031 0.042 0.778 0.150 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5508 0.002 0.020 0.108 0.871 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5509                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.2:0:DTCt=2;SiCs=2;tdR=4
5510 0.995 0.005 232904 #p00 p03 N0 for target C0=Cp
5511 0.005 0.995 741034 #p30 p33 N3 for target C3=Co
5512 0.218 0.782 1246000 #PNT 1-PNT num-of-all-data
5513 # C0    C1    C2    C3    N
5514 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.2:0:DTCt=2;SiCs=2;tdR=4
5515 0.779 0.148 0.064 0.009 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5516 0.024 0.714 0.240 0.021 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5517 0.011 0.207 0.580 0.202 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5518 0.000 0.002 0.088 0.910 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5519                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5520 0.984 0.016 234192 #p00 p03 N0 for target C0=Cp
5521 0.001 0.999 773888 #p30 p33 N3 for target C3=Co
5522 0.191 0.809 1246000 #PNT 1-PNT num-of-all-data
5523 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.3:0:DTCt=2;SiCs=2;tdR=4
5524 0.813 0.141 0.033 0.013 294000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5525 0.687 0.270 0.028 0.015 56000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5526 0.050 0.011 0.647 0.292 59500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5527 0.021 0.011 0.061 0.906 836500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5528                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5529 0.983 0.017 282156 #p00 p03 N0 for target C0=Cp
5530 0.026 0.974 795784 #p30 p33 N3 for target C3=Co
5531 0.135 0.865 1246000 #PNT 1-PNT num-of-all-data
5532 # C0    C1    C2    C3    N
5533 export DTCoCp=30,20:20,15:20,15:20,10:20 ##DTCoCp=30,20:20,15:20,10:20,5:20#DTCoCp=TCo1,TCp1:TCo2,TCp2:TCo
5534 3,TCp3:...:TCo
5535 I
     # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.2:0:DTCt=2;SiCs=2;tdR=4 ***best B
5536 0.848 0.126 0.023 0.004 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5537 0.077 0.637 0.241 0.045 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5538 0.014 0.208 0.583 0.195 24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5539 0.000 0.002 0.068 0.930 276500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5540                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5541 0.987 0.013 118860 #p00 p03 N0 for target C0=Cp
5542 0.001 0.999 262266 #p30 p33 N3 for target C3=Co
5543 0.169 0.831 458500 #PNT 1-PNT num-of-all-data
5544 # C0    C1    C2    C3    N
5545 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:0.2:0:DTCt=2;SiCs=3;tdR=4
5546 0.915 0.021 0.058 0.006 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5547 0.568 0.242 0.103 0.087 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5548 0.503 0.132 0.219 0.146 24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5549 0.239 0.149 0.124 0.488 276500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5550                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5551 0.981 0.019 139472 #p00 p03 N0 for target C0=Cp
5552 0.361 0.639 216916 #p30 p33 N3 for target C3=Co
5553 0.223 0.777 458500 #PNT 1-PNT num-of-all-data
5554 # C0    C1    C2    C3    N
5555 sing DTCt
     # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=2;SiCs=2;tdR=4 ##best g-GEBI
5556 0.761 0.195 0.043 0.000 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp     best
5557 0.491 0.427 0.077 0.005 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5558 0.018 0.038 0.719 0.225 24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5559 0.008 0.025 0.112 0.855 276500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5560                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5561 0.999 0.001 114292 #p00 p03 N0 for target C0=Cp
5562 0.011 0.989 244573 #p30 p33 N3 for target C3=Co
5563 0.217 0.783 458500 #PNT 1-PNT num-of-all-data
5564 # C0    C1    C2    C3    N
5565 0.888 0.000 0.105 0.007 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5566 0.771 0.000 0.196 0.033 21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5567 0.388 0.000 0.401 0.211 24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5568 0.225 0.000 0.229 0.546 276500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5569                       N #Modified Confusion Matrix
     # C0    C1    C2    C3    n     wpi
5570 0.988 0.012 139052 #p00 p03 N0 for target C0=Cp
5571 0.315 0.685 227857 #p30 p33 N3 for target C3=Co
5572 0.200 0.800 458500 #PNT 1-PNT num-of-all-data
```

```
5573
5574
5575
5576 ithout DTCt
     # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=0;SiCs=2;tdR=4 ###best w
5577 0.973 0.000 0.027 157500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5578 0.000 nan   nan   nan   0   100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5579 nan   nan   nan   nan   0   100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5580 0.050 0.000 0.000 0.950 301000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5581 # C0    C1    C2    C3    N #Modified Confusion Matrix
5582 nan   nan   nan #p00 p03 N0 for target C0=Cp
5583 nan   nan   nan #p30 p33 N3 for target C3=Co
5584 nan   nan   nan   458500 #PNT 1-PNT num-of-all-data
5585 # C0    C1    C2    C3    N
5586 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=1;SiCs=2;tdR=4
5587 0.778 0.179 0.043 0.000 126000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5588 0.639 0.299 0.059 0.004 31500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5589 0.027 0.014 0.589 0.370 38500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5590 0.018 0.016 0.098 0.867 262500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5591 # C0    C1    C2    C3    N #Modified Confusion Matrix
5592 0.999 0.001 118282 #p00 p03 N0 for target C0=Cp
5593 0.023 0.977 247597 #p30 p33 N3 for target C3=Co
5594 0.202 0.798 458500 #PNT 1-PNT num-of-all-data
5595 # C0    C1    C2    C3    N
5596 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=1;SiCs=2;tdR=4
5597 0.747 0.207 0.045 0.001 147000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5598 0.274 0.608 0.106 0.012 10500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5599 0.021 0.074 0.836 0.070 10500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5600 0.005 0.025 0.100 0.869 290500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5601 # C0    C1    C2    C3    N #Modified Confusion Matrix
5602 0.998 0.002 112959 #p00 p03 N0 for target C0=Cp
5603 0.007 0.993 254852 #p30 p33 N3 for target C3=Co
5604 0.198 0.802 458500 #PNT 1-PNT num-of-all-data
5605 # C0    C1    C2    C3    N
5606 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=4;SiCs=2;tdR=4
5607 0.785 0.170 0.039 0.006 115500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5608 0.725 0.223 0.044 0.007 42000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5609 0.029 0.006 0.467 0.498 52500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5610 0.023 0.011 0.092 0.874 248500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5611 # C0    C1    C2    C3    N #Modified Confusion Matrix
5612 0.992 0.008 122104 #p00 p03 N0 for target C0=Cp
5613 0.029 0.971 250572 #p30 p33 N3 for target C3=Co
5614 0.187 0.813 458500 #PNT 1-PNT num-of-all-data
5615
5616 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=3;SiCs=2;tdR=3
5617 0.797 0.191 0.011 0.000 126000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5618 0.311 0.514 0.169 0.007 31500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5619 0.004 0.146 0.616 0.233 38500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5620 0.000 0.004 0.108 0.888 266000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5621 # C0    C1    C2    C3    N #Modified Confusion Matrix
5622 0.998 0.002 110439 #p00 p03 N0 for target C0=Cp
5623 0.001 0.999 245332 #p30 p33 N3 for target C3=Co
5624 0.230 0.770 462000 #PNT 1-PNT num-of-all-data
5625 # C0    C1    C2    C3    N
5626 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=3;SiCs=2;tdR=3
5627 0.891 0.077 0.027 0.005 147000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5628 0.122 0.433 0.353 0.092 10500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5629 0.061 0.240 0.666 0.034 10500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5630 0.001 0.013 0.049 0.937 294000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5631 # C0    C1    C2    C3    N #Modified Confusion Matrix
5632 0.987 0.013 133959 #p00 p03 N0 for target C0=Cp
5633 0.003 0.997 276770 #p30 p33 N3 for target C3=Co
5634 0.111 0.889 462000 #PNT 1-PNT num-of-all-data
5635 # C0    C1    C2    C3    N
5636 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=2;SiCs=2;tdR=5
5637 0.195 0.742 0.055 0.007 126000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5638 0.093 0.888 0.015 0.004 31500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5639 0.037 0.001 0.379 0.582 38500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5640 0.055 0.027 0.078 0.839 259000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5641 # C0    C1    C2    C3    N #Modified Confusion Matrix
5642 0.965 0.035 28507.5 #p00 p03 N0 for target C0=Cp
5643 0.061 0.939 255378 #p30 p33 N3 for target C3=Co
5644 0.376 0.624 455000 #PNT 1-PNT num-of-all-data
5645 # C0    C1    C2    C3    N
5646 # C0    C1    C2    C3    n     wpi #Confusion Matrix for gibbs:1:1:0.3:DTCt=0;SiCs=2;tdR=3
5647 0.960 0.000 0.040 157500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5648 0.000 nan   nan   nan   0   100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5649 nan   nan   nan   nan   0   100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5650 0.025 0.000 0.975 304500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5651 # C0    C1    C2    C3    N #Modified Confusion Matrix
5652 nan   nan   nan #p00 p03 N0 for target C0=Cp
5653 # C0    C1    C2    C3    N
```

```
5654  nan nan #p00 p03 N0 for target C0=Cp
5655  nan nan #p30 p33 N3 for target C3=Co
5656  nan nan 462000 #PNT 1-PNT num-of-all-data
5657
5658  # C0   C1    C2    C3      n  wpi #Confusion Matrix for gibbs:1:1:0.3;DTCt=0;SiCs=2;tdR=5
5659  0.950 0.000 0.050 157500 100 #P00 p01 p02 p03 n0 wp0 for target C0=Cp
5660  nan nan nan nan       0 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5661  nan nan nan nan       0 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5662  0.080 0.000 0.000 0.920 297500 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
5663  # C0   C3    N #Modified Confusion Matrix
5664  nan nan nan #p00 p03 N0 for target C0=Cp
5665  nan nan nan #p30 p33 N3 for target C3=Co
5666  nan nan 455000 #PNT 1-PNT num-of-all-data
5667
5668
5669
5670
5671
5672  20160225
5673  ################################################
5674  ######## copy and paste from here for (1)
5675  ################################################
5676  #[1]
5677  prog=speakerdigit_v6
5678  make ; make data-clean
5679  d1=../result-speaker_search; if [ ! -e $d1 ]; then mkdir $d1;fi
5680  ##d2=/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/allpole:d
2sep="_"
5681  ##d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep="_"
5682  ##d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/d2sep=":"
5683  ##d2=../../2012/12voicedata/allpole/d2sep=":"
5684  d2=~/sotu/2012/12voicedata/allpole/d2sep=":"
5685  tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
5686  #### Main variables for Tuning from here ##################
5687  export gibbs=gibbs:1:1:0.3      #### use only gibb:1:1:1(GEBI) gibbs:1:1:0(BI), see  20160125 [a]-[e
5688  ##beta=beta:0.5:0.3  ##### tune this,
5689  export DTCt=3;#DTCt=0/DTCt=4;
5690  export SiCs="2"; ####for 3:Unregistered, 2:Incorrect SiCs="0 3 2"; #depends on speakerdigit_v6.c test
:7:...;$iCs:...
5691  export wp0=100 wp1=100 wp2=100 wp3=100; #weight of posterior distribution of probabilistic predictio
n
5692  export DTCoCp=30,20:20,15:20,10:20 ##DTCoCp=30,20:20,15:20,10:20,5:20
5693  #### Main variables for Tuning to here ##################
5694  cat /dev/null > resultsum.dat
5695  cat /dev/null > psdsum.dat
5696  cat /dev/null > testsdsum.dat
5697  fhg=$tmp/histSpeaker:cat /dev/null > $fhg.dat #Initialize
5698  for iCs in $SiCs; do
5699    for sX in 0 1 2 3 4 5 6; do sP=-1;
5700    if [ "$d2sep" = ":" ] ; then #ytm:1:0.9:1000 or ytm:1:0.9:2000
5701    cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:1000:$iCs:${DTCoCp} sX:$sX sP:$sP void:0";
5702    #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:$iCs:3:30,20:20,15:20,10:20,5:20 sX:$sX sP:$sP void:0"
;
5703    #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:$iCs:20:20:20:20:20 sX:$sX sP:$sP void:0";
5704    #cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s $beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";
5705    else
5706    cmd="$prog fs:${d2}/oob4s_-1N40bas2_300_1.6_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
$beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";#test >
 /dev/null
5707    fi
5708    echo "Exec "$cmd; $cmd > /dev/null
5709    cat $tmp/testsd_stat.dat >> resultsum.dat
5710    echo -e "\n" >> resultsum.dat ############# <== mean,UC of pG
5711    cat $tmp/psd.dat >> psdsum.dat ############# <== pG for all tests for speaker
5712    cat tmp/testsd.dat |awk 'BEGIN{d=0;}{if(substr($1,1,3)=="###") d=1;jelse print $0;}'> tmp/t
estsdsum.dat
5713    echo "##"#wc psdsum.dat tmp/psd.dat
5714    #wc psdsum.dat tmp/psd.dat
5715    done #for sX excluded speaker
5716  done # for iCs                              #done #LoopLevel1:for iCs $SiCs;
5717
5718
5719  ################################################
5720  ## obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGC[n][t
](pGa),(4)test->pGCd[n][t](pGd),(5)sX
```

```
5721  ################################################
5722  ###show t vs. pG of resultsum.dat
5723  fntpG="tmp/t-pGmean"
5724  gnuplot <<EOF
5725  set term postscript;set output "$fntpG.eps";
5726  plot "resultsum.dat" using 1:2:($2-\$4):($2+\$5) w errorbars, "" using 1:2 w l lc rgb "blue"
5727  quit
5728  EOF
5729  ### the following takes a lot of time to display via gnuplot
5730  cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
5731  #(1) 各テストにおけると-pG曲線の表示（2つの角度からの表示）；10テスト毎に間引き
5732  cat tmp/testsdsum.dat | awk 'BEGIN{l=0:t=0:n=1;}{if(substr($1,1,1)=="n"){n++;printf("\n");} else {l
++;match($2,"t.*"):t=substr($2,RSTART+1,RSTART+3); if(n%10==0) print n,t,$3;}}' > tmp/tpG.dat
5733  gnuplot <<EOF
5734  set xlabel "test"; set ylabel "t"; set zlabel "pG";
5735  set view 21,73
5736  set term postscript;set output "tmp/tpG1.eps";
5737  splot "tmp/tpG.dat" using 1:2:3 w l
5738  set view 16,108
5739  set term postscript;set output "tmp/tpG2.eps";
5740  splot "tmp/tpG.dat" using 1:2:3 w l
5741  quit
5742  EOF
5743  ### the following takes a lot of time to display via gnuplot
5744  cmd="gv tmp/tpG1.eps"; echo "Exec $cmd."; $cmd&
5745  cmd="gv tmp/tpG2.eps"; echo "Exec $cmd."; $cmd&
5746  ################################################
5747  export Ctotp=`cat tmp/Ctotp.dat`
5748  ################################################
5749  #[2]
5750  ### making training histogram for probabilistic prediction
5751  ### class Cp: prompted speaker's digits, Co:other speaker's, Ct:transient
5752  ### generate  (0)$d1/resultp_Cto.dat,
5753  ###           (1)$d1/resultp_Co.dat,
5754  ###           (2)$d1/resultp_Ctp.dat,
5755  ###           (3)$d1/resultp_Cp.dat,
5756  ###
5757  ################################################
5758  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel1: for CpG
5759    export CpG
5760    fb0=C${CpG}
5761    fbr=${d1}/resultp_${fb0}
5762    cat /dev/null > ${fb0}.dat
5763    cat psdsum.dat|                                                    ##??
5764    awk 'BEGIN{CpG=ENVIRON["CpG"];Ctotp=ENVIRON["Ctotp"];nmax=split(Ctotp,C);}{
5765    if(($1!=0){
5766      for(n=i:n<=nmax:n++){
5767        n4=(n-1)%4;
5768        if(($1<C[n]){
5769          if((CpG=="to"  && n4==0)||
5770          (CpG=="o"   && n4==1)||
5771          (CpG=="tp"  && n4==2)||
5772          (CpG=="p"   && n4==3))   {print $3,$0;}
5773          break;
5774        }
5775      }
5776    }
5777    }' >> ${fb0}.dat ;
5778    cmd1="cp ${fb0}.dat ${fbr}.dat"
5779    echo ${cmd1};$cmd1
5780    #nd=`wc ${fb0}.dat|awk '{print $1}'`; #nd=`wc psdsum.dat|awk '{print $1}'`
5781    #nd0=`expr $nd / 7 / 2`
5782    #echo "#nd=$nd,nd0=$nd0"
5783    cat /dev/null > ${fbr}_PPtrain.dat  ##PP:Probabilistic Prediction
5784    cat /dev/null > ${fbr}_PPtest.dat
5785    cat ${fbr}.dat|awk 'BEGIN{1=0:}{if(1+*%2==0) print $0;}' >> ${fbr}_PPtrain.dat
5786    cat ${fbr}.dat|awk 'BEGIN{1=0:}{if(1+*%2==1) print $0;}' >> ${fbr}_PPtest.dat
5787    #for sX_ in 0 1 2 3 4 5 6; do                          #LoopLeve2:for sX_ in 0 1 2 3 4
5,6;
5788    #export sX_0="expr $sX_ \* $nd0 \* 2`
5789    #sed -n -e "`expr ${sX_0} + 1`,`expr ${sX_0} + $nd0`p"     ${fbr}.dat >> ${fbr}_PPtrain.dat
5790    #sed -n -e "`expr ${sX_0} + $nd0 + 1`,`expr ${sX_0} \* 2`p" ${fbr}.dat >> ${fbr}_PPtest.dat
5791    #done #for sX_                                              #Done:LoopLeve2:for sX_ in 0 1
2 3 4 5
5792    #[2-2]
5793    6:
5794    ### Likelihood P(c_i|p_G) for Probabilistic Prediction
5795    ### Histgram by moving average of each class?
5796    #for sX_ in 0 1 2 3 4 5 6; do
5797    #export wp0=100 wp1=100 wp2=100 wp3=100; #weight of posterior distribution of probabilistic predicti
on
```

```
5798  export x0=0 ndiv=100 nmav=3
5799  cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
5800  echo $cmd; $cmd
5801  fhe=${dl}/hist-C${CpG}.eps
5802  cp $tmp/hist.eps $fhe
5803  #gv $fhe& #disp result
5804  cp $fhg.dat $tmp/histtmp.dat
5805  cat tmp/hist.dat |awk '{print $3}' > tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat  #
##
5806  sleep 2;
5807  done #for CpG in "p" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel1: for CpG
5808  #########
5809  #########
5810  ### insert first column to be the value of pG, while 2,3,4 columns P(c_i|p_G) for c_i=Cp, Ct, Co, re
spectively
5812  fpdg=$dl/ProbDistSpeaker
5813  cp $fhg.dat $tmp/histtmp.dat;cat tmp/hist.dat |awk '{print $1}' > tmp/hist1.dat;paste $tmp/histtmp.da
t tmp/hist1.dat > $fhg.dat ###
5814  cat /dev/null > $fpdg.dat
;}{p0=$1*wp0;p1=$2*wp1;p2=$3*wp2;p3=$4*wp3;psum=p0+p1+p2+p3;
5815  #{cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"]
;}{p0=$1*wp0;p1=$2*wp1;p2=$3*wp2;p3=$4*wp3;psum=p0+p1+p2+p3;
5816  #if(psum>0) printf("%e %e %e %e %e\n",$5, p0/psum,p1/psum,p2/psum,p3/psum);}' >> $fpdg.dat
5817  cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["wp3"];
}{p0=$1*wp0;p1=$2*wp1;p2=$3*wp2;p3=$4*wp3;psum=p0+p1+p2+p3;
5818  if(psum==0){p0=p1=p2=p3=1;psum=4;}
5819  printf("%e %e %e %e\n",$5, p0/psum,p1/psum,p2/psum,p3/psum);}' >> $fpdg.dat
5820
5821  #cat $fhg.dat|awk '{p0sum=$1;p1sum=$2;p2sum=$3;psum=p0sum+p1sum+p2sum;p2sum+p3;printf("%e %e %e %e\n", $4, p0
sum/psum,p1sum/psum,p2sum/psum,p3/psum);}' >> $fpdg.dat
5822
5823  #[3]
5824  #############################
5825  ### Show Likelihood P(c_i|p_G), and p(p_G)
5826  #############################
5827  gnuplot <<EOF
5828  set yrange [0:1.3]; set style data boxes; #set style data histeps
5829  set style fill solid border lc rgb "black"
5830  set term tgif;set output "$fpdg.obj";
5831  plot "$fpdg.dat" using 1:($2+\$3+\$4+\$5) lc rgb "blue" t "Prompted Speaker", "" using 1:(\$3+\$4+\
$5) lc rgb "green" t "TransientPrompted", "" using 1:(\$4+\$5) lc rgb "yellow" t "Other Prompted", "" using
1:(\$5) lc rgb "red" t "Other Speaker"
5832  set term postscript;set output "$fpdg.eps";replot
5833  set term postscript;set output "$fpdg-pGdist.eps"/plot "$fhg.dat" using 5:(\$1+\$2+\$3+\$4) lc rgb "
green" t "p(p_G)"
5834  quit
5835  EOF
5836  ##show
5837  cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&      #show P(c_i|p_G)
5838  cmd="gv $fpdg-pGdist.eps"; echo "Exec $cmd."; $cmd& #show p(pG)
5839  #############################
5840  #[4]
5841  #############################
5842  ## evaloss
5843  #############################
5844  d0=~/sotu/2015/can2b
5845  fpdg=$dl/ProbDistSpeaker #defined above
5846  foutall=cat /dev/null > ${foutall}.output ##all
5847  fgtall=Ctgtall:cat /dev/null > ${fgtall}.target
5848  for CpG in "p" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(other), to
(transient of other)  #LoopLevel1: for CpG
5849  if [ $CpG = "p" ] ; then export Ctgt=0; fi #prompted speaker
5850  if [ $CpG = "tp" ] ; then export Ctgt=1; fi #transient of prompted speaker
5851  if [ $CpG = "to" ] ; then export Ctgt=2; fi #transient of other speaker
5852  if [ $CpG = "o" ] ; then export Ctgt=3; fi #other speaker
5853  foutpG$CpG:cp ${dl}/resultp_C${CpG}_PPtest.dat ${fout}.output;#
5854  export ntest=`wc $fout}.output|awk '{print $1}'`
5855  export fgt=C${Ctgt};
5856  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${fgt}.
target #mktarget $Ctgt $ntest > ${fgt}.target
5857  cmd="evallos4pG p:${fpdg}.dat t:${fgt}.target o:${fout}.output vth:0.5:0";echo -n "#${cmd}##";cmd
5858  cat ${fout}.output >> ${foutall}.output;
5859  cat ${fgt}.target >> ${fgtall}.target; ###all
5860  done #for CpG in "p" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o(othe
r), to(transient of other)  #LoopLevel1: for CpG
5861  cmd="evallos4pG p:${fpdg}.dat t:${fgtall}.target o:${foutall}.output vth:0.5:0";echo -n "#${cmd}##"
";$cmd
5862
5863  #[5]
5864  #############################
5865  ## evalloss for confusion matrix
```

```
5866  #############################
5867  d0=~/sotu/2015/can2b
5868  fpdg=$dl/ProbDistSpeaker #defined above
5869  foutall=cat /dev/null > ${foutall}.output ##all
5870  fgtall=Ctgtall:cat /dev/null > ${fgtall}.target
5871  cat /dev/null > cfm.dat
5872  for Ctgt in 0 1 2 3; do #target class
5873  echo "#For Target Class $Ctgt, evall loss of p(rompted), t(ransient), o(ther) data. "
5874  export Ctgt;
5875  for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), tp(transient of prompted), o
(other), to(transient of other)  #LoopLevel1: for CpG
5876  fout=pG${CpG}:cp ${dl}/resultp_C${CpG}_PPtest.dat ${fout}.output; #output file to be classified as C
${CpG} for CpG in p,t,o o
5877  export ntest=`wc ${fout}.output|awk '{print $1}'`
5878  export fgt=C${Ctgt};
5879  awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${fout}.
target #mktarget $Ctgt $ntest > ${fgt}.target
5880  #
5881  cmd="evallos4pG p:${fpdg}.dat t:${fgt}.target o:${fout}.output vth:0.5:0";echo "##${cmd}##";
5882  $cmd | awk '{print $2,$6/}' >> cfm.dat
5883  #
5884  cat ${fout}.output >> ${foutall}.output;
5885  cat ${fgt}.target >> ${fgtall}.target; ###all
5886  done #for CpG in "p" "tp" "to" "o" ; do #CLASS of pG: p(prompted), o(othe
5887  done #for Ctgt        #LoopLevel1: for CpG
5888  #
5889  echo "#${gibbs};DTCt=$DTCt;SiCs=$SiCs";
5890  cat cfm.dat | awk 'BEGIN{[1=0;wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];wp3=ENVIRON["w
p3"];
5891  gibbs=ENVIRON["gibbs"];DTCt=ENVIRON["DTCt"];SiCs=ENVIRON["SiCs"];}
5892  {p[l]=$ln[l]=$2;i++;}END{
5893  printf("\n#  C0    C1    C2    C3      n wpi #Confusion Matrix for %s;DTCt=%s;SiCs=%s\n",gibbs,DTCt,
SiCs);
5894  #
5895  printf("%.3f  %.3f  %.3f  %.3f  %g #p00 p01 p02 p03 n0 wp0 for target C0=Cp\n", 1-p[0],1-p[4],1-p[8]
,1-p[12],n[0],wp0);
5896  printf("%.3f  %.3f  %.3f  %.3f  %g #p10 p11 p12 p13 n1 wp1 for target C1=Ctp\n",1-p[1],1-p[5],1-p[9]
,1-p[13],n[1],wp1);
5897  printf("%.3f  %.3f  %.3f  %.3f  %g #p20 p21 p22 p23 n2 wp2 for target C2=Cto\n",1-p[2],1-p[6],1-p[10
],1-p[14],n[2],wp2);
5898  printf("%.3f  %.3f  %.3f  %.3f  %g #p30 p31 p32 p33 n3 wp3 for target C3=Co\n", 1-p[3],1-p[7],1-p[11
],1-p[15],n[3],wp3);
5899  #
5900  nsum=n[0]+n[1]+n[2]+n[3];
5901  P00=(1-p[0])*n[0]+(1-p[1])*n[1];
5902  P03=(1-p[12])*n[0]+(1-p[13])*n[1];
5903  P0T=1-P00-P03;
5904  N0=P00+P03;P00/;P00/;N0/;P03/=N0;
5905  P30=(1-p[2])*n[2]+(1-p[3])*n[3];
5906  P33=(1-p[14])*n[2]+(1-p[15])*n[3];
5907  N3=P30+P33;P30/P30/;P33/N3;
5908  P3T=1-P30-P33;
5909  NT=nsum-N0-N3;
5910  printf("# C0    C1    C2    C3      N #Modified Confusion Matrix\n");
5911  printf("%.3f  %.3f  %g #p00 p03 N0 for target C0=Cp\n",P00,P03,N0);
5912  printf("%.3f  %.3f  %g #p30 p33 N3 for target C3=Co\n",P30,P33,N3);
5913  printf("%.3f  %.3f  %.0f #PNT 1-PNT num-of-all-data\n",P3T,num-of-all-data);
5914  }';
5915  ################################################
5916  ########### copy and paste to here for (1)
5917  ################################################
5918  #  C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:4.0:0.3;DTCt=4;SiCs=2
5919  0.962  0.003  0.029  0.006  115500  100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5920  0.547  0.162  0.024  0.267   42000  100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5921  0.205  0.003  0.208  0.583   52500  100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5922  0.003  0.003  0.013  0.982  259000  100 #p30 p31 p32 p33 n3 wp3 for target C3=Co
5923  #  C0    C1    C3      N #Modified Confusion Matrix
5924  0.918  0.082  145992  #p00 p03 N0 for target C0=Cp
5925  0.039  0.961  296485  #p30 p33 N3 for target C3=Co
5926  0.057  0.943  469000  #PNT 1-PNT num-of-all-data
5927  ################################################
5928  #  C0    C1    C2    C3      n wpi #Confusion Matrix for gibbs:1:3.0:0.3;DTCt=3;SiCs=2
5929  0.957  0.016  0.023  0.003  126000  100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5930  0.289  0.266  0.090  0.356   31500  100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5931  0.279  0.103  0.281  0.337   38500  100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5932  0.002  0.003  0.015  0.981  273000  100 #p30 p31 p32 p33 n3 wp3 for target C3=Co
5933  #  C0    C3      N #Modified Confusion Matrix
5934  0.918  0.082  141278  #p00 p03 N0 for target C0=Cp
5935  0.039  0.961  292075  #p30 p33 N3 for target C3=Co
```

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5936   .076 0.924        469000 #PNT 1-PNT num-of-all-data
5937
5938                  n   wpi  #Confusion Matrix for gibbs:1:3.0:0.3:DTCt=7;SiCs=2
5939   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5940   0.961 0.014 0.021 0.004  84000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5941   0.666 0.133 0.046 0.155  73500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5942   0.115 0.048 0.124 0.713  94500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5943   0.002 0.003 0.012 0.983  217000  N
5944   #  C0    C3        N #Modified Confusion Matrix
5945   0.917 0.083       141404 #p00 p03 N0 for target C0=Cp
5946   0.039 0.961       291991 #p30 p33 N3 for target C3=Co
5947   0.076 0.924       469000 #PNT 1-PNT num-of-all-data
5948                  n   wpi  #Confusion Matrix for gibbs:1:4.0:0.3:DTCt=5;SiCs=2
5949   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5950   0.962 0.003 0.029 0.006  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5951   0.629 0.130 0.025 0.215  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5952   0.162 0.003 0.168 0.667  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5953   0.003 0.002 0.013 0.983  245000  N #Modified Confusion Matrix
5954   #  C0    C3        N #Modified Confusion Matrix
5955   0.918 0.082       145950 #p00 p03 N0 for target C0=Cp
5956   0.039 0.961       296454 #p30 p33 N3 for target C3=Co
5957   0.057 0.943       469000 #PNT 1-PNT num-of-all-data
5958                  n   wpi  #Confusion Matrix for gibbs:1:3.0:0.3:DTCt=5;SiCs=2
5959   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5960   0.961 0.014 0.022 0.003  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5961   0.549 0.175 0.061 0.215  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5962   0.162 0.065 0.173 0.600  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5963   0.002 0.002 0.013 0.983  245000  N #Modified Confusion Matrix
5964   #  C0    C3        N #Modified Confusion Matrix
5965   0.918 0.082       141330 #p00 p03 N0 for target C0=Cp
5966   0.039 0.961       291998 #p30 p33 N3 for target C3=Co
5967   0.076 0.924       469000 #PNT 1-PNT num-of-all-data
5968                  n   wpi  #Confusion Matrix for gibbs:1:5.0:0.3:DTCt=5;SiCs=2
5969   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5970   0.964 0.002 0.022 0.013  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5971   0.738 0.022 0.022 0.218  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5972   0.164 0.001 0.136 0.699  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5973   0.005 0.001 0.014 0.980  245000  N #Modified Confusion Matrix
5974   #  C0    C3        N #Modified Confusion Matrix
5975   0.916 0.084       152775 #p00 p03 N0 for target C0=Cp
5976   0.041 0.959       298714 #p30 p33 N3 for target C3=Co
5977   0.037 0.963       469000 #PNT 1-PNT num-of-all-data
5978                  n   wpi  #Confusion Matrix for gibbs:1:6.0:0.3:DTCt=5;SiCs=2
5979   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5980   0.965 0.000 0.012 0.024  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5981   0.760 0.022 0.016 0.223  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5982   0.165 0.000 0.072 0.762  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5983   0.006 0.001 0.012 0.981  245000  N #Modified Confusion Matrix
5984   #  C0    C3        N #Modified Confusion Matrix
5985   0.908 0.092       155452 #p00 p03 N0 for target C0=Cp
5986   0.041 0.959       303460 #p30 p33 N3 for target C3=Co
5987   0.022 0.978       469000 #PNT 1-PNT num-of-all-data
5988                  n   wpi  #Confusion Matrix for gibbs:1:2.8:0.3:DTCt=5;SiCs=2
5989   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
5990   0.961 0.020 0.016 0.003  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
5991   0.546 0.189 0.049 0.216  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
5992   0.162 0.080 0.180 0.578  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
5993   0.001 0.003 0.011 0.984  245000  N #Modified Confusion Matrix
5994   #  C0    C3        N #Modified Confusion Matrix
5995   0.917 0.083       141225 #p00 p03 N0 for target C0=Cp
5996   0.038 0.962       290535 #p30 p33 N3 for target C3=Co
5997   0.079 0.921       469000 #PNT 1-PNT num-of-all-data
5998
5999                  n   wpi  #Confusion Matrix for gibbs:1:2.6:0.3:DTCt=5;SiCs=2
6000   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6001   0.961 0.016 0.021 0.002  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6002   0.536 0.178 0.068 0.218  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6003   0.162 0.055 0.239 0.544  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6004   0.001 0.004 0.009 0.986  245000  N #Modified Confusion Matrix
6005   #  C0    C3        N #Modified Confusion Matrix
6006   0.917 0.083       140700 #p00 p03 N0 for target C0=Cp
6007   0.038 0.962       288764 #p30 p33 N3 for target C3=Co
6008   0.084 0.916       469000 #PNT 1-PNT num-of-all-data
6009                  n   wpi  #Confusion Matrix for gibbs:1:2.4:0.3:DTCt=5;SiCs=2
6010   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6011   0.960 0.013 0.025 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6012   0.511 0.198 0.071 0.220  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6013   0.162 0.062 0.257 0.519  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6014   0.001 0.004 0.009 0.986  245000  N #Modified Confusion Matrix
6015   #  C0    C3        N #Modified Confusion Matrix
6016   0.916 0.084       139282 #p00 p03 N0 for target C0=Cp
6017   0.038 0.962       287102 #p30 p33 N3 for target C3=Co
```

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6017   0.091 0.909       469000 #PNT 1-PNT num-of-all-data
6018                  n   wpi  #Confusion Matrix for gibbs:1:2.2:0.3:DTCt=5;SiCs=2
6019   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6020   0.960 0.015 0.024 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6021   0.452 0.290 0.037 0.220  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6022   0.162 0.105 0.251 0.481  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6023   0.001 0.004 0.008 0.987  245000  N #Modified Confusion Matrix
6024   #  C0    C3        N #Modified Confusion Matrix
6025   0.914 0.086       136185 #p00 p03 N0 for target C0=Cp
6026   0.039 0.961       284820 #p30 p33 N3 for target C3=Co
6027   0.102 0.898       469000 #PNT 1-PNT num-of-all-data
6028
6029                  n   wpi  #Confusion Matrix for gibbs:1:2.0:0.3:DTCt=5;SiCs=2
6030   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6031   0.959 0.012 0.028 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6032   0.411 0.294 0.074 0.221  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6033   0.162 0.120 0.276 0.442  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6034   0.000 0.004 0.008 0.988  245000  N #Modified Confusion Matrix
6035   #  C0    C3        N #Modified Confusion Matrix
6036   0.913 0.087       133980 #p00 p03 N0 for target C0=Cp
6037   0.038 0.962       282226 #p30 p33 N3 for target C3=Co
6038   0.113 0.887       469000 #PNT 1-PNT num-of-all-data
6039                  n   wpi  #Confusion Matrix for gibbs:1:1.8:0.3:DTCt=5;SiCs=2
6040   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6041   0.958 0.017 0.024 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6042   0.394 0.277 0.104 0.224  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6043   0.162 0.139 0.303 0.396  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6044   0.000 0.005 0.008 0.987  245000  N #Modified Confusion Matrix
6045   #  C0    C3        N #Modified Confusion Matrix
6046   0.911 0.089       133140 #p00 p03 N0 for target C0=Cp
6047   0.039 0.961       278922 #p30 p33 N3 for target C3=Co
6048   0.121 0.879       469000 #PNT 1-PNT num-of-all-data
6049                  n   wpi  #Confusion Matrix for gibbs:1:1.6:0.3:DTCt=5;SiCs=2
6050   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6051   0.956 0.015 0.029 0.000  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6052   0.320 0.366 0.089 0.225  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6053   0.162 0.173 0.335 0.330  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6054   0.000 0.005 0.009 0.986  245000  N #Modified Confusion Matrix
6055   #  C0    C3        N #Modified Confusion Matrix
6056   0.908 0.092       128992 #p00 p03 N0 for target C0=Cp
6057   0.039 0.961       274288 #p30 p33 N3 for target C3=Co
6058   0.140 0.860       469000 #PNT 1-PNT num-of-all-data
6059                  n   wpi  #Confusion Matrix for gibbs:1:1.4:0.3:DTCt=5;SiCs=2
6060   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6061   0.951 0.022 0.027 0.000  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6062   0.230 0.382 0.162 0.226  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6063   0.162 0.218 0.339 0.280  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6064   0.000 0.008 0.012 0.979  245000  N #Modified Confusion Matrix
6065   #  C0    C3        N #Modified Confusion Matrix
6066   0.904 0.096       123795 #p00 p03 N0 for target C0=Cp
6067   0.040 0.960       269248 #p30 p33 N3 for target C3=Co
6068   0.162 0.838       469000 #PNT 1-PNT num-of-all-data
6069                  n   wpi  #Confusion Matrix for gibbs:1:1.2:0.3:DTCt=5;SiCs=2
6070   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6071   0.941 0.022 0.036 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6072   0.176 0.447 0.149 0.228  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6073   0.162 0.264 0.335 0.239  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6074   0.000 0.022 0.009 0.968  245000  N #Modified Confusion Matrix
6075   #  C0    C3        N #Modified Confusion Matrix
6076   0.899 0.101       120120 #p00 p03 N0 for target C0=Cp
6077   0.041 0.959       263826 #p30 p33 N3 for target C3=Co
6078   0.181 0.819       469000 #PNT 1-PNT num-of-all-data
6079                  n   wpi  #Confusion Matrix for gibbs:1:1.0:0.3:DTCt=5;SiCs=2
6080   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6081   0.911 0.019 0.070 0.001  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6082   0.050 0.498 0.222 0.230  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6083   0.170 0.207 0.411 0.213  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6084   0.000 0.065 0.009 0.926  245000  N #Modified Confusion Matrix
6085   #  C0    C3        N #Modified Confusion Matrix
6086   0.890 0.110       110460 #p00 p03 N0 for target C0=Cp
6087   0.045 0.955       252340 #p30 p33 N3 for target C3=Co
6088   0.226 0.774       469000 #PNT 1-PNT num-of-all-data
6089
6090                  n   wpi  #Confusion Matrix for gibbs:1:0.8:0.3:DTCt=5;SiCs=2
6091   #  C0    C1    C2    C3   100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6092   0.854 0.122 0.025 0.002  105000  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6093   0.023 0.548 0.191 0.237  52500  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6094   0.298 0.090 0.397 0.215  66500  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6095   0.000 0.115 0.012 0.872  245000  N #Modified Confusion Matrix
6096   #  C0    C3        N #Modified Confusion Matrix
6097   0.878 0.122       103530 #p00 p03 N0 for target C0=Cp
6098   0.080 0.920       247754 #p30 p33 N3 for target C3=Co
6099   0.251 0.749       469000 #PNT 1-PNT num-of-all-data
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6100
6101 #Confusion Matrix for gibbs:1:1:0.3;DTCt=2;SiCs=2
6102 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6103 0.896 0.015 0.063 0.027 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6104 0.003 0.453 0.000 0.544  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6105 0.476 0.001 0.376 0.147  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6106 0.089 0.049 0.003 0.859 287000 100 #PNT 1-PNT num-of-all-data
6107 # C0    C1                    N       #Modified Confusion Matrix
6108 0.890 0.110               137476     #p00 p03 N0 for target C0=Cp
6109 0.129 0.871               287340     #p30 p33 N3 for target C3=Co
6110 0.094 0.906               469000     #PNT 1-PNT num-of-all-data
6111 #Confusion Matrix for gibbs:1:1:0.3;DTCt=2;SiCs=2
6112 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6113 0.889 0.015 0.070 0.027 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6114 0.003 0.453 0.000 0.544  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6115 0.472 0.001 0.381 0.147  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6116 0.089 0.049 0.004 0.859 287000 100 #PNT 1-PNT num-of-all-data
6117 # C0    C1                    N       #Modified Confusion Matrix
6118 0.889 0.111               136521     #p00 p03 N0 for target C0=Cp
6119 0.129 0.871               287242     #p30 p33 N3 for target C3=Co
6120 0.096 0.904               469000     #PNT 1-PNT num-of-all-data
6121
6122 #Confusion Matrix; gibbs:1:1.2:0;DTCt=2;SiCs=2 best??
6123 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6124 0.960 0.005 0.029 0.006 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6125 0.256 0.202 0.017 0.524  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6126 0.433 0.004 0.394 0.170  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6127 0.003 0.003 0.014 0.980 287000 100 #PNT 1-PNT nsum
6128 # C0    C1                    N       #Modified Confusion Matrix
6129 0.920 0.080               148239     #p00 p03 N0 for target C0=Cp
6130 0.039 0.961               296894     #p30 p33 N3 for target C3=Co
6131 0.051 0.949               469000     #PNT 1-PNT nsum
6132
6133 #Confusion Matrix; gibbs:1:1.4:0;DTCt=2;SiCs=2
6134 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6135 0.964 0.000 0.026 0.010 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6136 0.458 0.000 0.022 0.520  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6137 0.433 0.000 0.295 0.271  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6138 0.006 0.000 0.016 0.978 287000 100 #PNT 1-PNT nsum
6139 # C0    C1                    N       #Modified Confusion Matrix
6140 0.920 0.080               153489     #p00 p03 N0 for target C0=Cp
6141 0.041 0.959               299656     #p30 p33 N3 for target C3=Co
6142 0.034 0.966               469000     #PNT 1-PNT nsum
6143
6144 #Confusion Matrix; gibbs:1:1.6:0;DTCt=2;SiCs=2
6145 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6146 0.964 0.002 0.018 0.016 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6147 0.458 0.012 0.009 0.520  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6148 0.434 0.010 0.198 0.358  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6149 0.006 0.006 0.009 0.979 287000 100 #PNT 1-PNT nsum
6150 # C0    C1                    N       #Modified Confusion Matrix
6151 0.915 0.085               154308     #p00 p03 N0 for target C0=Cp
6152 0.041 0.959               302099     #p30 p33 N3 for target C3=Co
6153 0.027 0.973               469000     #PNT 1-PNT nsum
6154 #Confusion Matrix; gibbs:1:1:0;DTCt=2;SiCs=2
6155 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6156 0.956 0.011 0.028 0.005 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6157 0.010 0.461 0.002 0.526  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6158 0.434 0.014 0.396 0.157  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6159 0.001 0.013 0.005 0.981 287000 100 #PNT 1-PNT nsum
6160 # C0    C1                    N       #Modified Confusion Matrix
6161 0.918 0.082               142432     #p00 p03 N0 for target C0=Cp
6162 0.037 0.963               296314     #p30 p33 N3 for target C3=Co
6163 0.065 0.935               469000     #PNT 1-PNT nsum
6164 #Confusion Matrix; gibbs:1:0.8:0;DTCt=2;SiCs=2
6165 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6166 0.956 0.020 0.017 0.008 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6167 0.010 0.385 0.065 0.542  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6168 0.436 0.143 0.263 0.159  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6169 0.001 0.005 0.005 0.990 287000 100 #PNT 1-PNT nsum
6170 # C0    C1                    N       #Modified Confusion Matrix
6171 0.913 0.087               143157     #p00 p03 N0 for target C0=Cp
6172 0.037 0.963               298994     #p30 p33 N3 for target C3=Co
6173 0.057 0.943               469000     #PNT 1-PNT nsum
6174 #Confusion Matrix; gibbs:1:2:0;DTCt=2;SiCs=2
6175 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6176 0.963 0.001 0.034 0.008 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6177 0.458 0.000 0.023 0.519  21000  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6178 0.434 0.001 0.003 0.563  24500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6179 0.006 0.000 0.013 0.981 287000 100 #PNT 1-PNT nsum
6180 # C0    C1                    N       #Modified Confusion Matrix
6181 0.901 0.099               156608     #p00 p03 N0 for target C0=Cp
     0.040 0.960               307696     #p30 p33 N3 for target C3=Co
     0.010 0.990               469000     #PNT 1-PNT nsum
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6182
6183 #Confusion Matrix for gibbs:1:1:0.3;DTCt=5;SiCs=2
6184 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6185 0.911 0.019 0.070 0.001 105000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6186 0.050 0.498 0.222 0.230  52500  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6187 0.170 0.207 0.411 0.213  66500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6188 0.000 0.065 0.009 0.926 245000 100 #PNT 1-PNT nsum
6189 # C0    C1                    N       #Modified Confusion Matrix
6190 0.890 0.110               110460     #p00 p03 N0 for target C0=Cp
6191 0.045 0.955               252340     #p30 p33 N3 for target C3=Co
6192 0.226 0.774               469000     #PNT 1-PNT nsum
6193 #Confusion Matrix for gibbs:1:1:0.3;DTCt=5;SiCs=2
6194 # C0    C1    C2    C3      n   wpi  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6195 0.911 0.019 0.070 0.001 105000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6196 0.050 0.498 0.222 0.230  52500  50 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6197 0.170 0.207 0.411 0.213  66500  50 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6198 0.000 0.065 0.009 0.926 245000 100 #PNT 1-PNT nsum
6199 # C0    C1                    N       #Modified Confusion Matrix
6200 0.890 0.110               110460     #p00 p03 N0 for target C0=Cp
6201 0.045 0.955               252340     #p30 p33 N3 for target C3=Co
6202 0.226 0.774               469000     #PNT 1-PNT nsum
6203
6204 #gibbs:1:1:0.05;DTCt=10;SiCs=2
6205 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6206 0.962 0.025 0.010 0.003  52500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6207 0.752 0.125 0.014 0.109 136500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6208 0.079 0.054 0.075 0.793 105000 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6209 0.000 0.006 0.010 0.984 175000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6210 # C0    C1                    N       #Modified Confusion Matrix
6211 0.918 0.082               141068     #p00 p03 N0 for target C0=Cp
6212 0.037 0.963               291228     #p30 p33 N3 for target C3=Co
6213 0.078 0.922               469000     #PNT 1-PNT nsum
6214
6215 #gibbs:1:1:0.05;DTCt=2;SiCs=2
6216 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6217 0.956 0.023 0.013 0.008 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6218 0.009 0.419 0.031 0.541  21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6219 0.436 0.195 0.210 0.159  24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6220 0.001 0.006 0.003 0.990 287000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6221 # C0    C1                    N       #Modified Confusion Matrix
6222 0.913 0.087               143136     #p00 p03 N0 for target C0=Cp
6223 0.037 0.963               298994     #p30 p33 N3 for target C3=Co
6224 0.057 0.943               469000     #PNT 1-PNT nsum
6225
6226 #gibbs:1:1:0.1;DTCt=2;SiCs=2
6227 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6228 0.949 0.011 0.031 0.009 136500 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6229 0.002 0.439 0.017 0.542  21000 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6230 0.436 0.040 0.366 0.158  24500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6231 0.001 0.005 0.004 0.990 287000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6232 # C0    C1                    N       #Modified Confusion Matrix
6233 0.911 0.089               142191     #p00 p03 N0 for target C0=Cp
6234 0.037 0.963               298970     #p30 p33 N3 for target C3=Co
6235 0.059 0.941               469000     #PNT 1-PNT nsum
6236
6237 #gibbs:1:1:0.2;DTCt=3;SiCs=2
6238 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6239 0.910 0.007 0.030 0.005 126000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6240 0.001 0.344 0.007 0.356  31500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6241 0.454 0.001 0.272 0.438  38500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6242 0.018 0.032 0.003 0.983 273000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6243 # C0    C1                    N       #Modified Confusion Matrix
6244 0.901 0.099               137886     #p00 p03 N0 for target C0=Cp
6245 0.056 0.944               291728     #p30 p33 N3 for target C3=Co
6246 0.084 0.916               469000     #PNT 1-PNT nsum
6247
6248 #gibbs:1:1:0;DTCt=1;SiCs=2 #NG
6249 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6250 0.959 0.007 0.030 0.005 126000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6251 0.293 0.344 0.007 0.356  31500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6252 0.277 0.013 0.272 0.438  38500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6253 0.000 0.013 0.003 0.983 273000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6254 # C0    C1                    N       #Modified Confusion Matrix
6255 0.917 0.083               141908     #p00 p03 N0 for target C0=Cp
6256 0.036 0.964               295886     #p30 p33 N3 for target C3=Co
6257 0.067 0.933               469000     #PNT 1-PNT nsum
6258
6259 #gibbs:1:1:0;DTCt=1;SiCs=2 #NG
6260 # C0    C1    C2    C3      n   wpi  #Confusion Matrix
6261 0.078 0.013 0.894 0.015 147000 100 #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6262 0.004 0.992 0.001 0.003  10500 100 #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6263 0.008 0.005 0.971 0.017  10500 100 #p20 p21 p22 p23 n2 wp2 for target C2=Cto
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6264 0.006 0.956 0.011 0.027 301000 100 #p30 p31 p32 p33 n3 wp2 for target C3=Co
6265 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6266 0.837 0.163                13744.5 #p00 p03 N0 for target C0=Cp
6267 0.185 0.815                10195.5 #p30 p33 N3 for target C3=Co
6268 0.949 0.051                469000  #PNT 1-PNT nsum
6269
6270
6271 #gibbs:1:1:0;DTCt=0;SiCs=2
6272 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6273 0.899 0.000 0.000 0.101  157500  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6274 nan   nan   nan   nan         0  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6275 nan   nan   nan   nan         0  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6276 0.041 0.000 0.000 0.959  311500  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6277 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6278 nan   nan                          #p00 p03 N0 for target C0=Cp
6279 nan   nan                          #p30 p33 N3 for target C3=Co
6280 nan   nan                  469000  #PNT 1-PNT nsum
6281
6282 #gibbs:1:1:0.1;DTCt=1;SiCs=2 #NG
6283 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6284 0.090 0.009 0.882 0.020  147000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6285 0.004 0.989 0.000 0.006   10500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6286 0.011 0.001 0.975 0.013   10500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6287 0.017 0.012 0.051 0.920  301000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6288 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6289 0.815 0.185                16275   #p00 p03 N0 for target C0=Cp
6290 0.253 0.747                20720   #p30 p33 N3 for target C3=Co
6291 0.921 0.079                469000  #PNT 1-PNT nsum
6292
6293 #gibbs:1:1:0;DTCt=3;SiCs=2
6294 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6295 0.959 0.007 0.030 0.005  126000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6296 0.293 0.344 0.007 0.356   31500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6297 0.277 0.013 0.272 0.438   38500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6298 0.000 0.013 0.003 0.983  273000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6299 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6300 0.917 0.083                141908  #p00 p03 N0 for target C0=Cp
6301 0.036 0.964                295886  #p30 p33 N3 for target C3=Co
6302       0.916                469000  #PNT 1-PNT nsum
6303 #gibbs:1:1:0.2;DTCt=2;SiCs=2
6304 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6305 0.910 0.013 0.060 0.016  136500  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6306 0.001 0.452 0.001 0.546   21000  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6307 0.454 0.002 0.395 0.149   24500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6308 0.018 0.032 0.003 0.947  287000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6309 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6310 0.901 0.099                137886  #p00 p03 N0 for target C0=Cp
6311 0.056 0.944                291728  #p30 p33 N3 for target C3=Co
6312 0.084 0.916                469000  #PNT 1-PNT nsum
6313 #DTCt=2;gibbs:1:1:0.1
6314
6315 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6316 0.949 0.011 0.031 0.009  136500  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6317 0.002 0.439 0.017 0.542   21000  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6318 0.436 0.040 0.366 0.158   24500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6319 0.001 0.005 0.004 0.990  287000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6320 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6321 0.911 0.089                142191  #p00 p03 N0 for target C0=Cp
6322 0.037 0.963                298970  #p30 p33 N3 for target C3=Co
6323 0.059 0.941                469000  #PNT 1-PNT nsum
6324
6325 #DTCt=5;gibbs:1:1:0
6326 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6327 0.961 0.005 0.029 0.005  147000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6328 0.555 0.204 0.017 0.224   52500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6329 0.161 0.004 0.160 0.675   66500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6330 0.000 0.005 0.003 0.992  245000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6331 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6332 0.914 0.086                142328  #p00 p03 N0 for target C0=Cp
6333 0.036 0.964                298634  #p30 p33 N3 for target C3=Co
6334 0.060 0.940                469000  #PNT 1-PNT nsum
6335
6336 #DTCt=1;gibbs:1:1:0 ??bad?DTCt=1 is very bad but DTCt=2 is pretty good why?
6337 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6338 0.078 0.013 0.894 0.015  147000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6339 0.004 0.992 0.001 0.003   10500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6340 0.008 0.005 0.971 0.017   10500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6341 0.006 0.956 0.011 0.027  301000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6342 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6343 0.837 0.163                13744.5 #p00 p03 N0 for target C0=Cp
6344 0.185 0.815                10195.5 #p30 p33 N3 for target C3=Co
6345 0.949 0.051                469000  #PNT 1-PNT nsum
```

```
6346 #gibbs:1:1:0.3;DTCt=1;SiCs=2
6347
6348 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6349 0.295 0.011 0.668 0.026  147000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6350 0.005 0.995 0.000 0.000   10500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6351 0.036 0.000 0.960 0.003   10500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6352 0.152 0.046 0.004 0.798  301000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6353 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6354 0.919 0.081                47239.5 #p00 p03 N0 for target C0=Cp
6355 0.769 0.231                60007.5 #p30 p33 N3 for target C3=Co
6356 0.771 0.229                469000  #PNT 1-PNT nsum
6357 #DTCt=1;gibbs:1:1:0.3
6358 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6359 0.295 0.011 0.668 0.026  147000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6360 0.005 0.995 0.000 0.000   10500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6361 0.036 0.000 0.960 0.003   10500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6362 0.152 0.046 0.004 0.798  301000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6363 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6364 0.919 0.081                47239.5 #p00 p03 N0 for target C0=Cp
6365 0.769 0.231                60007.5 #p30 p33 N3 for target C3=Co
6366 0.771 0.229                469000  #PNT 1-PNT nsum
6367 #gibbs:1:1:0.3
6368
6369
6370 #DTCt=5;gibbs:1:1:0.3
6371 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6372 0.911 0.019 0.070 0.001  105000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6373 0.050 0.498 0.222 0.230   52500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6374 0.170 0.207 0.411 0.213   66500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6375 0.000 0.065 0.009 0.926  245000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6376 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6377 0.890 0.110                110460  #p00 p03 N0 for target C0=Cp
6378 0.045 0.955                252340  #p30 p33 N3 for target C3=Co
6379 0.226 0.774                469000  #PNT 1-PNT nsum
6380 #DTCt=3;
6381
6382 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6383 0.800 0.046 0.147 0.007  126000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6384 0.012 0.604 0.002 0.382   31500  100  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6385 0.312 0.014 0.494 0.180   38500  100  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6386 0.008 0.108 0.014 0.870  273000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6387 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6388 0.887 0.113                114093  #p00 p03 N0 for target C0=Cp
6389 0.055 0.945                258636  #p30 p33 N3 for target C3=Co
6390 0.205 0.795                469000  #PNT 1-PNT nsum
6391
6392 # C0    C1    C2    C3      n     wpi  #Confusion Matrix
6393 0.784 0.052 0.158 0.006  126000  100  #p00 p01 p02 p03 n0 wp0 for target C0=Cp
6394 0.000 0.617 0.004 0.378   31500  150  #p10 p11 p12 p13 n1 wp1 for target C1=Ctp
6395 0.295 0.015 0.510 0.180   38500  150  #p20 p21 p22 p23 n2 wp2 for target C2=Cto
6396 0.003 0.112 0.018 0.867  273000  100  #p30 p31 p32 p33 n3 wp2 for target C3=Co
6397 # C0    C1    C2    C3     N        #Modified Confusion Matrix
6398 0.886 0.114                111447  #p00 p03 N0 for target C0=Cp
6399 0.048 0.952                255798  #p30 p33 n3 for target C3=Co
6400 0.217                      101756  #PNT Nt nsum
6401                           469000  #nsum
6402
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6421
6422
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6426
6427 ############################################
```

```
6428  20160224
6429  #(1) まず、pijについて 20160220を参照。判定不能(undesidable)とする割合
6430  過渡期間 DTCtを増やして (=3や5など)、判定不能を増やし、
6431  (p01*n0+p11*n1+p21*n2)/(n0+n1+n2)) を増やし、
6432  判定不能時刻を除いた時刻の話者検索成功率 p00/(p00+p02)を上げることができるか？
6433
6434     gibbs:1:1:0.3は良い結果を与えるが、p10と p12の何%が指定話者である か
6435     を調べること、正確な検索正解率が得られない
6436  #(2) 20160202の[1]~[5]の実行結果。
6437     wp0,wp1,wp2は[2-2]で指定
6438
6439  #gibbs:1:1:0.3 DTCt=5 SiCs="3"; Seems very good
6440  #  C0     C1     C2       n  wpi #Confusion Matrix
6441  0.947  0.049  0.004 105000 100 #p00 p01 p02 n0 wp0 for target C0
6442  0.471  0.336  0.194 119000 150 #p10 p11 p12 n1 wp1 for target C1
6443  0.197  0.355  0.448 245000 100 #p20 p21 p22 n2 wp2 for target C2
6444
6445  #gibbs:1:1:0.3 DTCt=5 SiCs="2"; Seems very good
6446  #  C0     C1     C2       n  wpi #Confusion Matrix
6447  0.911  0.089  0.000 105000 100 #p00 p01 p02 n0 wp0 for target C0
6448  0.117  0.665  0.218 119000 150 #p10 p11 p12 n1 wp1 for target C1   1=0.911/(0.911+0)=1
6449  0.000  0.076  0.924 245000 100 #p20 p21 p22 n2 wp2 for target C2   Should check how much data in C0 and
6450                                                                     C2 for 0.117 and 0.218.
6451  #gibbs:1:1:0.3 SiCs="2"; Seems  good
6452  #  C0     C1     C2       n  wpi #Confusion Matrix
6453  0.809  0.183  0.008 126000 100 #p00 p01 p02 n0 wp0 for target C0   検索成功率 p00'=0.990208=0.809/(0.809+
6454                                                                     0.008)
6455  0.181  0.548  0.271 70000 150 #p10 p11 p12 n1 wp1 for target C1    0.0349045=(7000*0.548)/(12600+70000+2
6456  0.012  0.115  0.872 273000 100 #p20 p21 p22 n2 wp2 for target C2    for 0.181 and 0.271
6457  73001) are recognized undecidable. Should check how much data in C0 and C2 for 0.181 and 0.271
6458                                                                     0.094882=0.012/(0.012+0.115)
6459  #gibbs:1:1:0 DTCt=3 SiCs="2" wp0:wp1:wp2=100:150:100; Seems good ?p11が小さいが良いか？
6460  #  C0     C1     C2       n  wpi #Confusion Matrix
6461  0.961  0.035  0.005 105000 100 #p00 p01 p02 n0 wp0 for target C0
6462  0.335  0.198  0.468 119000 150 #p10 p11 p12 n1 wp1 for target C1
6463  0.000  0.016  0.983 245000 100 #p20 p21 p22 n2 wp2 for target C2
6464
6465  #gibbs:1:1:0 DTCt=3 SiCs="2" wp0:wp1:wp2=100:100:100; Seems  good ?p11が小さいが良いか？
6466  #  C0     C1     C2       n  wpi #Confusion Matrix
6467  0.961  0.034  0.005 105000 100 #p00 p01 p02 n0 wp0 for target C0
6468  0.335  0.189  0.476 119000 150 #p10 p11 p12 n1 wp1 for target C1
6469  0.000  0.008  0.992 245000 100 #p20 p21 p22 n2 wp2 for target C2
6470
6471  ###gibbs:1:1:0.3 DTCt=1 SiCs="2"; Seems NG.
6472  ##  C0     C1     C2       n  wpi #Confusion Matrix
6473  ##0.295  0.679  0.026 147000 100 #p00 p01 p02 n0 wp0 for target C0
6474  ##0.021  0.978  0.002 21000 150 #p10 p11 p12 n1 wp1 for target C1
6475  ##0.152  0.802  0.046 301000 100 #p20 p21 p22 n2 wp2 for target C2
6476  ##
6477  ###gibbs:1:1:0.3
6478  ##  C0     C1     C2       n  wpi #Confusion Matrix
6479  ##0.963  0.000  0.037 147000 100 #p00 p01 p02 n0 wp0 for target C0
6480  ##0.501  0.000  0.499 21000 1 #p10 p11 p12 n1 wp1 for target C1
6481  ##0.156  0.000  0.844 301000 100 #p20 p21 p22 n2 wp2 for target C2
6482  ###gibbs:1:1:0.4
6483  ##  C0     C1     C2       n  wpi #Confusion Matrix
6484  ##0.410  0.514  0.076 147000 100 #p00 p01 p02 n0 wp0 for target C0
6485  ##0.041  0.459  0.500 21000 1 #p10 p11 p12 n1 wp1 for target C1
6486  ##0.240  0.028  0.732 301000 100 #p20 p21 p22 n2 wp2 for target C2
6487  ###gibbs:1:1:0.5 NG time-constant
6488  ##  C0     C1     C2       n  wpi #Confusion Matrix
6489  ##0.466  0.414  0.120 147000 100 #p00 p01 p02 n0 wp0 for target C0
6490  ##0.082  0.417  0.500 21000 1 #p10 p11 p12 n1 wp1 for target C1
6491  ##0.299  0.071  0.630 301000 100 #p20 p21 p22 n2 wp2 for target C2
6492  ##
6493  ##  C0     C1     C2       n  wpi #Confusion Matrix
6494  ##0.963  0.006  0.031 147000 100 #p00 p01 p02 n0 wp0 for target C0
6495  ##0.487  0.003  0.510 21000 17 #p10 p11 p12 n1 wp1 for target C1
6496  ##0.009  0.006  0.985 301000 10 #p20 p21 p22 n2 wp2 for target C2
6497  ##
6498  ##  C0     C1     C2       n  wpi #Confusion Matrix
6499  ##0.079  0.893  0.028 147000 100 #p00 p01 p02 n0 wp0 for target C0
6500  ##0.006  0.487  0.507 21000 175 #p10 p11 p12 n1 wp1 for target C1
6501  ##0.007  0.014  0.979 301000 100 #p20 p21 p22 n2 wp2 for target C2
6502  ##
6503  ##  C0     C1     C2       n  wpi #Confusion Matrix
6504  ##0.079  0.895  0.026 147000 100 #p00 p01 p02 n0 wp0 for target C0
6505  ##0.006  0.489  0.505 21000 18 #p10 p11 p12 n1 wp1 for target C1
6506
```

```
6507  ##0.007  0.018  0.975 301000 10 #p20 p21 p22 n2 wp2 for target C2
6508  ##
6509  ##  C0     C1     C2       n  wpi #Confusion Matrix
6510  ##0.964  0.000  0.036 147000 10 #p00 p01 p02 n0 wp0 for target C0
6511  ##0.487  0.000  0.513 21000 15 #p10 p11 p12 n1 wp1 for target C1
6512  ##0.009  0.001  0.990 301000 10 #p20 p21 p22 n2 wp2 for target C2
6513  ##
6514  ##  C0     C1     C2       n  #Confusion Matrix
6515  ##0.078  0.912  0.010 147000 1 #p00 p01 p02 n0 wp0 for target C0
6516  ##0.006  0.988  0.006 21000 2 #p10 p11 p12 n1 wp1 for target C1
6517  ##0.006  0.976  0.018 301000 1 #p20 p21 p22 n2 wp2 for target C2
6518  ##
6519  ##  C0     C1     C2       n  wpi #Confusion Matrix
6520  ##0.074  0.922  0.004 147000 1 #p00 p01 p02 n0 wp0 for target C0
6521  ##0.005  0.992  0.002 21000 3 #p10 p11 p12 n1 wp1 for target C1
6522  ##0.005  0.987  0.008 301000 1 #p20 p21 p22 n2 wp2 for target C2
6523  ##
6524  20160220
6525  (1) 過渡期間（判定不能）の効果を調べるため、DTCt=0 ができるようにし、さらに
6526      Confusion matrix は wiki 参照)で、性能評価できるようにした。
6527
6528  #Confusion matrix (混同行列？) ≒ Contingency table(分割表)
6529  #target↓output判定→        C0      C1      C2       (p00+p01+p02=1)
6530  #C0                        p00     p01     p02      n0
6531  #C1                        p10     p11     p12      n1
6532  #C2                        p20     p21     p22      n2
6533
6534  # pijは入力データの話者ラス(target)が C0に対し、検索結果が Cjになる確率
6535  ################### output検索結果（判定）が C0となる場合の確率
6536  #p00=(n01+n02)/n0   --> n0*p00=n01+n02  --> n00=n0*(1-p00)   <--[4]で求まる値(1-p00)
6537  #p10=(n11+n12)/n1   --> n1*p01=n11+n12  --> n10=n1*(1-p10)
6538  #p20=(n21+n22)/n2   --> n2*p02=n21+n22  --> n20=n2*(1-p20)
6539  ################### output検索結果（判定）が C1となる場合の確率
6540  #p01=(n00+n02)/n0   -->                     n01=n0*(1-p01)   <--[4]で求まる値(1-p11)
6541  #p11=(n10+n12)/n1   -->                     n11=n1*(1-p11)
6542  #p21=(n20+n22)/n2   -->                     n21=n2*(1-p21)
6543  ################### output検索結果（判定）が C1となる場合の確率
6544  #p02=(n00+n01)/n0   -->                     n02=n0*(1-p02)   <--[4]で求まる値(1-p22)
6545  #p12=(n10+n11)/n1   -->                     n12=n1*(1-p12)
6546  #p22=(n20+n21)/n2   -->                     n22=n2*(1-p22)
6547
6548  (2) 20160202の[1]~[4]の後に、[5]を挿入し、これを実行すれば表示される。例えば
6549  次の結果が得られる。
6550  # [5]の結果
6551  #(a) DTCt=0;SiCs="2"
6552  #  C0     C1     C2       n  #Confusion Matrix
6553  0.899  0.000  0.101 157500 #p00 p01 p02 n0 for target C0
6554  不能)及び個数 n1=0で良い       #p10 p11 p12 n1 for target C1  <--過渡期間 DTCt=0なので、p10=p11=o12=nan(計算
6555                             #p20 p21 p22 n2 for target C2
6556  #(b) DTCt=1;SiCs="2"
6557  0.041 0.000 0.959 311500 #p00 p01 p02 n0 for target C0
6558  #(c) DTCt=0;SiCs="3"
6559  #  C0     C1     C2       n  #Confusion Matrix
6560  0.964  0.000  0.036 147000 #p00 p01 p02 n0 for target C0
6561  0.487  0.000  0.513 21000 #p10 p11 p12 n1 for target C1
6562  0.009  0.000  0.991 301000 #p20 p21 p22 n2 for target C2
6563  #(c) DTCt=1;SiCs="3"
6564  #  C0     C1     C2       n  #Confusion Matrix
6565  0.895  0.000  0.105 157500 #p00 p01 p02 n0 for target C0
6566  nan nan nan 0 #p10 p11 p12 n1 for target C1
6567  0.267  0.000  0.733 311500 #p20 p21 p22 n2 for target C2
6568  #(d) DTCt=1;SiCs="3"
6569  #  C0     C1     C2       n  #Confusion Matrix
6570  0.936  0.002  0.062 147000 #p00 p01 p02 n0 for target C0
6571  0.586  0.008  0.406 21000 #p10 p11 p12 n1 for target C1
6572  0.234  0.005  0.761 301000 #p20 p21 p22 n2 for target C2
6573  #DTCt=3;SiCs="3"
6574  #  C0     C1     C2       n  #Confusion Matrix
6575  0.960  0.018  0.021 126000 #p00 p01 p02 n0 for target C0
6576  0.531  0.189  0.280 70000 #p10 p11 p12 n1 for target C1
6577  0.186  0.107  0.707 273000 #p20 p21 p22 n2 for target C2
6578  ##result
6579  対応する[4]の結果
6580  #(a) DTCt=0;SiCs="2"
6581  #(b) DTCt=1;SiCs="2"
6582  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0## 0.0
6583  35 0.036 0.449 0.499 3 147000 #LAVE,LACE,LNLP,LNLDP,nC ndata <-- LAVE=1-p00= 0.036=1-0.964
```

```
6587 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0## 0.4
88 1.000 1.019 1.049  3 21000 #LAVE,LACE,LNLP,LNLPD,nC ndata  <-- LAVE=1-p11= 1.000=1-0.000
6588 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0## 0.0
11 0.009 0.455 0.468  3 301000 #LAVE,LACE,LNLP,LNLPD,nC ndata <-- LAVE=1-p22= 0.009=1-0.991
6589 #(c) DTCt=0:SiCs="3"
6590 #(d) DTCt=i:SiCs="3"
6591 #DTCt=3:SiCs="3"
6592 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0## 0.0
29 0.040 0.476 0.540  3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6593 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0## 0.6
99 0.811 0.961 1.144  3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6594 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0## 0.3
15 0.293 0.530 0.799  3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6595 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0## 0.296 0.302 0.580 0.781  3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6596
6597
6598
6599
6600 20160214
6601 (1) 各テストにおけるt-pG曲線の表示を 20160020202の[11]の後ろ ([21]の前) に入れた。
6602 ####
6603 20160202
6604 20160202
6605 ###############################################
6606 ######## copy and paste from here for (1) ...
6607 ###############################################
6608 #[1]
6609 prog=speakerdigit_v6
6610 make ; make data-clean
6611 d1=../result-speaker_search/; if [ ! -e $d1 ]; then mkdir $d1;fi
6612 ###d2=/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/;d2sep="_"
2sep="_"
6613 ###d2=/media/sf_D_DRIVE/cdata/15iconip/iconip_saigen/2012/12voicedata/allpole/;d2sep=" "
6614 ###d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/allpole:d2sep=":"
6615 ###d2=../../2012/12voicedata/iconip14data:d2sep=":"
6616 ###d2=../../2012/12voicedata/allpole/allpole:d2sep=":"
6617 d2=~/sotu/2012/12voicedata/allpole:d2sep=":"
6618 tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
6619 ###obtain psdsum.dat
6620 gibbs=gibbs:1:1:0.5:0.2      ##### use only gibbs:1:1:1(GBBI) gibbs:1:1:0(BI), see  20160125 [a]-[e] ##b
eta=beta:0.5:0.3  ##### tune this,
6621 gibbs=gibbs:1:1:0            ##### use only gibbs:1:1:1(GEBI) gibbs:1:1:0(BI), see  20160125 [a]-[e] ##beta=
beta:0.5:0.3  ##### tune this,
6622 DTCt=3:#DTCt=0:DTCt=4;
6623 SiCs="2"; ###for 3:Unregistered, 2:Incorrect SiCs="0 3 2"; #depnds on speakerdigit_v6.c test:7:..:$
iCs:..
6624 DTCoCp=30,20:20,15:20,10:20 ##DTCoCp=30,20:20,15:20,10:20,5:20
6625 cat /dev/null > resultsum.dat
6626 cat /dev/null > psdsum.dat
6627 cat /dev/null > testsdsum.dat
6628 fhg=$tmp/histSpeaker;cat /dev/null > $fhg.dat #Initialize
6629 for iCs in $SiCs; do                          #LoopLevel1:for iCs for set 2rd option o
f test:7:...
6630   for sX in 0 1 2 3 4 5 6; do sP=-1;          #LoopLevel2:for sX in 0 1 2 3 4 5 6;
6631     if [ "$d2sep" = ":" ] ; then #ytm:1:0.9:1000 or ytm:1:0.9:2000
6632     cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:1000:${iCs}:${DTCt}:$[DTCoCp} sX:$sX sP:$sP void:0";
6633     cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:3:30:.20:20,15:20,10:20,5:20 sX:$sX sP:$sP void:0"
6634     cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:20:20:20:20 sX:$sX sP:$sP void:0";
6635     cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibb
s $beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs} 0:20:100:20:2 sX:$sX sP:$sP void:0";
6636   else
6637     cmd="$prog fs:${d2}/oob4s:-1N40mbas2_300_1.6_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gibbs
$beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";$cmd > /
dev/null
6638   fi
6639   echo "Exec $cmd";$cmd > /dev/null
6640   cat $tmp/testsd_stat.dat >> resultsum.dat
6641   echo -e "\n" >> resultsum.dat ############ <= mean,UC of pG
6642   cat $tmp/psd.dat >> psdsum.dat ############ <= pG for all tests for speaker
6643   cat tmp/testsd.dat |awk 'BEGIN{d=0;}{if(substr($1,1,3)=="###") d=1;else print $0;}' > tmp/t
estsdsum.dat
6644   #echo "###wc psdsum.dat tmp/psd.dat"
6645   #wc psdsum.dat tmp/psd.dat
6646   done #for sX excluded speaker                #done #LoopLevel2:for sX in 0 1 2 3 4 5
6; done #for iCs
6647 done # for iCs                                 #done #LoopLevel1:for iCs $SiCs;
6648 ###############################################
```

```
6649 ## obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGC[n][t
](pGs),(4)test->pGCd[n][t](pGd),(5)sX
6650 ###############################################
6651 ##show t vs. pG of resultsum.dat
6652 fntpG="tmp/t-pGmean"
6653 gnuplot <<EOF
6654 set term postscript;set output "$fntpG.eps";
6655 plot "resultsum.dat" using 1:2:(\$2-\$4):(\$2+\$5) w errorbars, "" using 1:2 w 1 lc rgb "blue"
6656 quit
6657 EOF
6658 ## the following takes a lot of time to display via gnuplot
6659 cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
6660 ###fntpG="tmp/tpGall"
6661 ###set term postscript:set output "$fntpG.eps";
6662 ###plot "psdsum.dat" using 1:3 w d
6663 ###quit
6664 ###EOF
6665 ###
6666 ###
6667 ###cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
6668 #cmd="cat tmp/Ctotp.sh";echo "Manually Exec $cmd";$cmd
6669 #export Ctotp=" 3 30 33 50 53 70 73 85 88 105 108 115 118 135 138 140 143 160 "; #Sequence of time po
ints changing the class Ct,Co,Ct,Cp ...
6670 ##(1) 各テストにおけるt-pG曲線の表示 (2つの角度からの表示) ;10テスト毎に間引きを
6671 cat tmp/testsdsum.dat | awk 'BEGIN{l=0:t=0:0:n=1;}{if(substr($1,1,1=="n"){n++;printf("\n");}n++;print
++;match($2,"t.*"):t=substr($2,RSTART+1,RSTART+3); if(n%10==0) print n,t,$3;}' > tmp/tpG.dat
6672 gnuplot <<EOF
6673 set xlabel "test"; set ylabel "t"; set zlabel "pG";
6674 set view 21,73
6675 set term postscript:set output "tmp/tpG1.eps";
6676 splot "tmp/tpG.dat" using 1:2:3 w l
6677 set view 16,108
6678 set term postscript:set output "tmp/tpG2.eps";
6679 splot "tmp/tpG.dat" using 1:2:3 w l
6680 quit
6681 EOF
6682 ## the following takes a lot of time to display via gnuplot
6683 cmd="gv tmp/tpG1.eps"; echo "Exec $cmd."; $cmd&
6684 cmd="gv tmp/tpG2.eps"; echo "Exec $cmd."; $cmd&
6685 ###############################################
6686 export Ctotp=`cat tmp/Ctotp.dat`
6687 ###############################################
6688 #[2]
6689 ###############################################
6690 ### making training histgram for probabilistic prediction
6691 ## class Cp: prompted speaker's digits, Co:other speaker's, Ct:transient
6692 ###############################################
6693 for CpG in "p" "t" "o" ; do  # CLASS of pG
6694 export CpG
6695 fbr=$CpG                                             ###???
6696 fbr=${d1}/resultp_${fbr0}
6697 cat /dev/null > ${fbr0}.dat
6698 cat psdsum.dat|
6699 awk 'BEGIN{CpG=ENVIRON["CpG"];Ctotp=ENVIRON["Ctotp"];nmax=split(Ctotp,C);}{
6700   if($1==0){
6701     for(n=1;n<=nmax;n++){
6702       if($1<C[n]){
6703         n4=(n-1)%4;
6704         if((CpG=="p") && n4==3)||
6705            (CpG=="o" && n4==1)||
6706            (CpG=="t" && (n4==0 || n4==2)) {print $3,$0;}
6707         break;
6708       }
6709     }
6710   }
6711 }' >> ${fbr0}.dat ;
6712 # (CpG=="t" && (n4==0 || n4==2)) {print $3,$0,"n=",n,n4,"C=",C[n],C[l],nmax;}
6713 cmd1="np ${fbr0}.dat ${fbr}.dat"
6714 echo $cmd1;$cmd1
6715 #nd=`wc ${fbr0}.dat|awk '{print $1}'`; #nd=`wc psdsum.dat|awk '{print $1}'`
6716 #nd0=`expr $nd / 7 / 2`
6717 #echo "#nd=$nd_nd0=$nd0"
6718 cat /dev/null > ${fbr}_PPtrain.dat  ##PP:Probabilistic Prediction
6719 cat /dev/null > ${fbr}_PPtest.dat
6720 cat ${fbr}.dat|awk 'BEGIN{l=0;}{if(l++%2==0) print $0;}' >> ${fbr}_PPtrain.dat
6721 cat ${fbr}.dat|awk 'BEGIN{l=0;}{if(l++%2==1) print $0;}' >> ${fbr}_PPtest.dat
6722 #for sX_ in 0 1 2 3 4 5 6; do                          #LoopLeve2:for sX_ in 0 1
5 6;
6723 #export sX_0=`expr $sX_ \* $nd0 \* 2`
6724 #sed -n -e `expr ${sX_0} + 1`,`expr ${sX_0} + $nd0`p" ${fbr}.dat >> ${fbr}_PPtrain.dat
6725 #sed -n -e `expr ${sX_0} + $nd0 + 1`,`expr ${sX_0} + $nd0 \* 2`p" ${fbr}.dat >> ${fbr}_PPtest.dat
6726 #done #for sX_                                         #Done:LoopLeve2:for sX_ in 0 1
```

```
2 3 4 5 6;
6727 #[2-2]
6728 ################################
6729 ### Likelihood P(c_i|p_G) for Probabilistic Prediction
6730 ### Histogram by moving average of each class?
6731 ################################
6732 export wp0=100 wp1=150 wp2=100; #weight of posterior distribution of probabilistic prediction
6733 export x0=0 ndiv=100 nmav=3
6734 echo $cmd; $cmd
6735 fhe=${d1}/hist-C$(CpG).eps
6736 cp $tmp/hist.eps $fhe
6737 #gv $fhe& #disp result
6738 cp $tmp/histtmp.dat
6739 cat tmp/hist.dat |awk '{print $3}' > tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat   #
6740 ##
6741 sleep 2;
6742 done #for CpG in "p" "t" "o" ;                    #Done:LoopLevel: for CpG
6743 ###########
6744 ## insert first column to be the value of pG, while 2,3,4 columns P(c_i|p_G) for c_i=Cp, Ct, Co, re
spectively
6745 fpdg=$d1/ProbDistSpeaker
6746 cp $fhg.dat $tmp/histtmp.dat:cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat:paste $tmp/histtmp.da
t tmp/hist1.dat > $fhg.dat ##
6747 cat /dev/null > $fpdg.dat
6748 cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];}{p0=$1*wp0:p1=$2*w
p1:p2=$3*wp2:psum=p0+p1+p2:printf("%e %e %e\n",$4, p0/psum,p1/psum,p2/psum);}' >> $fpdg.dat
6749 #cat $fhg.dat|awk 'BEGIN{wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];wp2=ENVIRON["wp2"];}{p0sum=$1*wp0:p1s
um=$2*wp1:p2sum=$3*wp2:psum=p0sum+p1sum+p2sum:printf("%e %e %e\n",$4, p0sum/psum,p1sum/psum,p2sum/psum);}
' >> $fpdg.dat
6750 #cat $fhg.dat|awk '{p0sum=$1:p1sum=$2:p2sum=$3:psum=p0sum+p1sum+p2sum:printf("%e %e %e\n",$4, p0
sum/psum,p1sum/psum,p2sum/psum);}' >> $fpdg.dat
6751 #[3]
6752 ################################
6753 ################################
6754 ## Show Likelihood P(c_i|p_G), and p(p_G)
6755 ################################
6756 gnuplot <<EOF
6757 set yrange [0:1.3]; set style data boxes; #set style data histeps
6758 set style fill solid border lc rgb "black"
6759 set term tgif:set output "$fpdg.obj";
6760 plot "$fpdg.dat" using 1:($2+\$3+\$4) lc rgb "blue" t "Prompted Speaker", "" using 1:(\$3+\$4) lc r
gb "yellow" t "Transient", "" using 1:(\$4) lc rgb "red" t "Other Speaker"
6761 set term postscript:set output "$fpdg.eps";replot
6762 set term postscript:set output "$fpdg-pGdist.eps";plot "$fhg.dat" using 4:(\$1+\$2+\$3) lc rgb "gree
n" t "p(p_G)"
6763 quit
6764 EOF
6765 ###show
6766 cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&        #show p(c_i|p_G)
6767 cmd="gv $fpdg-pGdist.eps"; echo "Exec $cmd."; $cmd& #show p(pG)
6768 ################################
6769 #[4]
6770 ################################
6771 ## evalloss
6772 ################################
6773 d0=~/sotu/2015/can2b
6774 foutall=pGall:cat /dev/null > ${foutall}.output ###all
6775 ftgtall=Ctgtall:cat /dev/null > ${ftgtall}.target
6776 for CpG in "p" "o" "t" ; do  # CpG(phase) for w:prompted-word o:other-word, t:transient    #LoopLev
el 1:for CpG in "p" "o" "t" ; do
6777 if [ $CpG = "p" ] ; then export Ctgt=0; fi #prompted
6778 if [ $CpG = "t" ] ; then export Ctgt=1; fi #transient
6779 if [ $CpG = "o" ] ; then export Ctgt=2; fi #other
6780 fout=pG${CpG}:cp ${d1}/resultp_C${CpG}_PPtest.dat ${fout}.output:#
6781 export ntest=`wc $(fout).output|awk '{print $1}'`
6782 export ftgt=C$(Ctgt);
6783 awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.
target #mktarget $Ctgt $ntest > ${ftgt}.target
6784 cat ${fout}.output >> ${foutall}.output;
6785 cat ${ftgt}.target >> ${ftgtall}.target; ###all
6786 done #for CpG
6787 ################################
6788 el 1:for CpG in "p" "o" "t" ; do
6789 cmd="evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:0.5:0";echo -n "#${cmd}##
",;$cmd
6790 ################################
6791 #[5]
6792 ## evalloss for confusion matrix
6793 ################################
6794 ################################
```

```
6795 d0=~/sotu/2015/can2b
6796 fpdg=$d1/ProbDistSpeaker #defined above
6797 foutall=pGall:cat /dev/null > ${foutall}.output ###all
6798 ftgtall=Ctgtall:cat /dev/null > ${ftgtall}.target
6799 ##
6800 cat /dev/null > cfm.dat
6801 for Ctgt in 0 1 2 ; do #target class
vel 0
6802 echo "#For Target Class $Ctgt, evall loss of p(prompted), t(transient), o(ther) data. "
6803 export Ctgt;
6804 for CpG in "p" "t" "o" ; do   # CpG(phase) for w:prompted-word o:other-word, t:transient    #LoopLev
el 1:for CpG in "p" "o" "t" ; do
6805 fout=pG${CpG}:cp ${d1}/resultp_C${CpG}_PPtest.dat ${fout}.output: #output file to be classified as C
${CpG} for CpG in p,t or o
6806 export ntest=`wc ${fout}.output|awk '{print $1}'`
6807 export ftgt=C$(Ctgt);
6808 awk 'BEGIN{Ctgt=ENVIRON["Ctgt"];ntest=ENVIRON["ntest"];for(i=0;i<ntest;i++) print Ctgt;}' > ${ftgt}.
target #mktarget $Ctgt $ntest > ${ftgt}.target
6809 ###########
6810 cmd="evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo "#${cmd}##";
6811 $cmd | awk '{print $2,$6;}' >> cfm.dat
6812 ##
6813 cat ${fout}.output >> ${foutall}.output;
6814 cat ${ftgt}.target >> ${ftgtall}.target; ###all
6815 done #for CpG
6816 done #for Ctgt
el 0
6817 echo "  C0     C1     C2      n #Confusion Matrix"
6818 cat cfm.dat | awk 'BEGIN{l=0:wp0=ENVIRON["wp0"];wp1=ENVIRON["wp1"];}END{
6819 {p[l]=$l:n[l]=$2:l++}END{
6820 printf("#  C0     C1     C2      n   wpi #Confusion Matrix\n");
6821 printf("%.3f %.3f %.3f %d %g #p00 p01 p02 n0 wp0 for target C0\n",1-p[0],1-p[3],1-p[6],n[0],wp0);
6822 printf("%.3f %.3f %.3f %d %g #p10 p11 p12 n1 wp1 for target C1\n",1-p[1],1-p[4],1-p[7],n[1],wp1);
6823 printf("%.3f %.3f %.3f %d %g #p20 p21 p22 n2 wp2 for target C2\n",1-p[2],1-p[5],1-p[8],n[2],wp2);}'
6824 ################################
6825 ################ copy and paste to here for (1)
6826 ################################
6827 ###############
6828 ################################
6829 ################################
6830 # ewault of [5]
6831 #DTCt=3:SiCs="2"
6832 #  C0     C1     C2      n #Confusion Matrix
6833 # 0.960 0.035 0.005 126000 #p00 p01 p02 n0 for target C0
6834 0.287 0.311 0.402 70000 #p10 p11 p12 n1 for target C1
6835 0.000 0.016 0.984 273000 #p20 p21 p22 n2 for target C2
6836 #DTCt=1:SiCs="2"
6837 #  C0     C1     C2      n #Confusion Matrix
6838 0.964 0.000 0.036 147000 #p00 p01 p02 n0 for target C0
6839 0.487 0.000 0.513 21000 #p10 p11 p12 n1 for target C1
6840 0.009 0.000 0.991 301000 #p20 p21 p22 n2 for target C2
6841 #DTCt=0:SiCs="2"
6842 #  C0     C1     C2      n #Confusion Matrix
6843 0.899 0.000 0.101 157500 #p00 p01 p02 n0 for target C0
6844 nan nan nan 0 #p10 p11 p12 n1 for target C1
6845 0.041 0.000 0.959 311500 #p20 p21 p22 n2 for target C2
6846 #DTCt=3:SiCs="3"
6847 #  C0     C1     C2      n #Confusion Matrix
6848 0.960 0.018 0.021 126000 #p00 p01 p02 n0 for target C0
6849 0.531 0.189 0.280 70000 #p10 p11 p12 n1 for target C1
6850 0.186 0.107 0.707 273000 #p20 p21 p22 n2 for target C2
6851 #DTCt=1:SiCs="3"
6852 #  C0     C1     C2      n #Confusion Matrix
6853 0.936 0.002 0.062 147000 #p00 p01 p02 n0 for target C0
6854 0.586 0.008 0.406 21000 #p10 p11 p12 n1 for target C1
6855 0.234 0.005 0.761 301000 #p20 p21 p22 n2 for target C2
6856 #DTCt=0:SiCs="3"
6857 #  C0     C1     C2      n #Confusion Matrix
6858 0.895 0.000 0.105 157500 #p00 p01 p02 n0 for target C0
6859 nan nan nan 0 #p10 p11 p12 n1 for target C1
6860 0.267 0.000 0.733 311500 #p20 p21 p22 n2 for target C2
6861 #DTCt=3:SiCs="3"
6862 ###result
6863
6864 ################################
6865 ################################
6866 ####### SiCs="2" registered spekers
6867 #evalloss4pG p:./result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0#0.02
6868 9 0.039 0.306 0.326 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6869 #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0#0.43
```

```
9 0.811 1.118 1.125 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6870  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.008 0.357 0.364 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6871  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.121 0.219 0.539 0.549 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6872
  6873
  6874  #gibbs:1:1:0.1 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes better?
  6875  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
6 0.037 0.282 0.290 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6876  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.46
2 0.713 1.121 1.123 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6877  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
3 0.012 0.288 0.296 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6878  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.120 0.196 0.498 0.504 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6879
  6880  #gibbs:1:1:0 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2"  Bayes Good?
  6881  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.02
9 0.039 0.306 0.326 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6882  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.43
9 0.811 1.118 1.125 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6883  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.008 0.357 0.364 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6884  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.121 0.219 0.539 0.549 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6885
  6886  #gibbs:1:1.5:0 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes better?
  6887  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
4 0.034 0.380 0.433 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6888  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.42
8 0.932 1.095 1.115 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6889  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.020 0.423 0.454 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6890  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.119 0.255 0.584 0.617 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6891
  6892  #gibbs:1:0.9:0.1 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes better?
  6893  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
7 0.037 0.296 0.308 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6894  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.49
7 0.736 1.116 1.118 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6895  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
5 0.014 0.305 0.318 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6896  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.130 0.202 0.509 0.519 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6897
  6898  #gibbs:1:1.1:0.05 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes Not so good
  6899  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.01
6 0.039 0.302 0.321 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6900  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.48
1 0.791 1.119 1.124 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6901  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.016 0.351 0.359 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6902  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.129 0.218 0.535 0.545 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6903
  6904  #gibbs:1:0.9:0.1 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes
  6905  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
6 0.040 0.252 0.259 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6906  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.43
6 0.652 1.102 1.104 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6907  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
2 0.011 0.266 0.272 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6908  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.113 0.180 0.475 0.480 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6909
  6910  #gibbs:1:1:0.2 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2" modified Bayes
  6911  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
5 0.045 0.212 0.219 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6912  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.48
5 0.498 1.018 1.019 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6913  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
1 0.013 0.205 0.210 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6914  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.125 0.143 0.413 0.417 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6915
  6916  #gibbs:1:1:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="2" Conventional Bayes better?
  6917  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.01
3 0.067 0.205 0.229 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6918  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.52
4 0.427 0.979 0.982 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
```

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  6919  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
5 0.038 0.228 0.245 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6920  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.085 0.104 0.334 0.351 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6921
  6922  #gibbs:1:1:0.1 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="2"; modified Bayes
  6923  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
8 0.043 0.243 0.256 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6924  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.48
6 0.556 1.063 1.067 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6925  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
3 0.017 0.217 0.229 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6926  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.077 0.104 0.350 0.361 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6927  #gibbs:1:1:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="2";Conventional Bayes best?
  6928  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.02
9 0.040 0.266 0.287 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6929  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.45
3 0.689 1.101 1.107 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6930  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.016 0.296 0.306 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6931  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.079 0.123 0.408 0.420 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6932  #gibbs:1:1.5:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="2";modiied Bayes Not so much?
  6933  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
5 0.035 0.382 0.434 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6934  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.43
7 0.898 1.101 1.123 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6935  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
6 0.021 0.392 0.423 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6936  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.078 0.155 0.495 0.530 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6937
  6938  ######## SiCs="3" unregistered speakers
  6939  #gibbs:1:1.5:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="3"; modified bayes better? not so much
  6940  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
4 0.036 0.564 0.634 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6941  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.67
8 0.946 0.900 1.117 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6942  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.28
3 0.256 0.530 0.833 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6943  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.275 0.300 0.595 0.822 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6944
  6945  #gibbs:1:1:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="3"; Bayes Good?
  6946  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.02
9 0.040 0.476 0.540 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6947  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.69
9 0.811 0.961 1.144 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6948  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.31
5 0.293 0.530 0.799 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6949  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.296 0.302 0.580 0.781 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6950
  6951  #gibbs:1:1:0.1 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="3"; modified Bayes NG?
  6952  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
5 0.038 0.463 0.523 3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6953  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.72
4 0.834 0.994 1.161 3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6954  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.33
7 0.308 0.523 0.800 3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6955  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.361 0.381 0.629 0.830 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6956
  6957  #gibbs:1:0.5:0 DTCoCp=30,20:20,15:20,10:20; DTCt=3; SiCs="3"; modified bayes wore
  6958  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
8 0.051 0.421 0.495 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6959  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.68
1 0.723 0.976 1.153 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6960  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.38
6 0.347 0.569 0.834 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6961  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0.5:
0##0.329 0.324 0.590 0.790 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6962
  6963
  6964
  6965  #gibbs:1:0.5:0.2 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="3"; NG?
  6966  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.02
5 0.147 0.547 0.673 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6967  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.68
2 0.764 0.814 1.111 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
  6968  #evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.56
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6   0.416  0.686 1.000  3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6969  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.438 0.396 0.668  0.929  3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6970
6971  #gibbs:1:0.5:0.2 DTCoCp=30,20:20,15:20,10:20; DTCt=5; SiCs="2"; NG?
6972  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.02
1   0.111  0.248 0.297  3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6973  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.50
0   0.448  1.031 1.034  3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6974  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.01
2   0.120  0.276 0.309  3 245000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6975  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.138 0.201 0.462  0.490  3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6976
6977
6978  #gibbs:1:1:0 DTCoCp=20,20:20, DTCt=5; SiCs="2"; good?
6979  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
6980  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.00
0   0.039  0.265 0.287  3 52500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6981  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.35
4   0.847  1.096 1.101  3 49000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6982  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
5   0.007  0.421 0.426  3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6983  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.094 0.215 0.542  0.551  3 206500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6984
6985  #gibbs:1:1:0 DTCoCp=20,20:20, DTCt=3; SiCs="2";
6986  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
0   0.041  0.241 0.264  3 59500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6987  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.37
4   0.739  1.092 1.097  3 28000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6988  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
5   0.016  0.358 0.365  3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6989  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.063 0.121 0.424  0.435  3 206500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6990
6991  #gibbs:1:0.5:0.2 DTCoCp=20,20:20, DTCt=5; SiCs="2";
6992  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.00
9   0.149  0.170 0.170  3 52500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6993  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.42
3   0.517  0.964 0.967  3 49000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6994  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.00
4   0.043  0.296 0.304  3 105000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6995  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.104 0.158 0.417  0.427  3 206500 #LAVE,LACE,LNLP,LNLPD,nC ndata
6996
6997  #gibbs:1:0.5:0.2 DTCt=4; SiCs="2";
6998  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.01
6   0.094  0.195 0.232  3 56000 #LAVE,LACE,LNLP,LNLPD,nC ndata
6999  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.42
6   0.574  1.018 1.028  3 38500 #LAVE,LACE,LNLP,LNLPD,nC ndata
7000  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.01
5   0.050  0.326 0.341  3 112000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7001  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##-0.092 0.160 0.420  0.439  3 206500 #LAVE,LACE,LNLP,LNLPD,nC ndata
7002
7003  #gibbs:1:0.5:0.2 DTCoCp=20,20:20 DTCt=3; SiCs="";
7004  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0.03
1   0.259  0.297 0.297  3 59500 #LAVE,LACE,LNLP,LNLPD,nC ndata
7005  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0.37
6   0.556  1.010 1.032  3 28000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7006  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0.04
2   0.078  0.363 0.389  3 119000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7007  #evalloss4pG p:.../result-speaker_search/ProbDistSpeaker.dat t:ctgtall.target o:pGall.output vth:0.5:
0##0.084 0.151 0.421  0.450  3 206500 #LAVE,LACE,LNLP,LNLPD,nC ndata
7008  ###
7009  ###
7010  ###
7011  ###
7012  ###
7013  #########  copy and paste from here for (1)
7014  ####201600201
7015  ####[1]
7016  ###prog=speakerdigit_v6
7017  ##make ; make data-clean
7018  ###d1=.../result-speaker_search; if [ ! -e $d1 ]; then mkdir $d1;fi
7019  #####d2=~/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep=" "
7020  #####d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/d2sep=":"
7021  #####d2=.../../2012/12voicedata/iconip14data/d2sep=":"
7022  #####d2=.../../2012/12voicedata/allpole/d2sep=":"
7023  ###d2=~/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/12voicedata/allpol
e;d2sep=" "
```

```
7024  ##tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
7025  #####obtain psdsum.dat
7026  ##cat /dev/null > resultsum.dat
7027  ##cat /dev/null > psdsum.dat
7028  ##gibbs=gibbs:1:0.5:0.2    ##### use only gibb:1:1:0(BI), see 20160125 [a]-[e]
7029  ##DTCt=3;
7030  ##DTCoCp=30,20:20,15:20,10:20,5:20
7031  #####beta=beta:0.5:0.3  #### tune this,
7032  ##fhg=$tmp/histSpeaker;cat /dev/null > $fhg.dat #Initialize
7033  ##SiCs="2"; ####for 3:Unregistered, 2:Incorrect SiCs="0 3 2"; #depnds on speakerdigit_v6.c test:7:.
.:SiCs...:
7034  ##for iCs in $SiCs; do
7035  ##for sX in 0 1 2 3 4 5 6; do sP=-1;   #LoopLevel1:for iCs for set 2rd optio
n of test:7:......
7036  ##if [ "$d2sep" = ":" ] ; then #ytm:1:0.9:1000 or ytm:1:0.9:2000    #LoopLevel2:for sX in 0 1 2 3 4 5 6;
7037  ##cmd="$prog fs:${d2}/oob4s--1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gi
bbs ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs:${DTCt}:${DTCoCp} sX:$sX sP:$sP void:0';
7038  ##cmd="$prog fs:${d2}/oob4s--1N40mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $g
ibbs ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:3:30,20:20,15:20,10:20,5:20 sX:$sX sP:$sP void
:0';
7039  ##cmd="$prog fs:${d2}/oob4s--1N40mbas2:300:1.6:1sX${sX}(sX).y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $g
ibbs ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:8:2000:${iCs}:20:20:20:20 sX:$sX sP:$sP void:0';
7040  ##cmd="$prog fs:${d2}/oob4s--1N40mbas2:300:1.6:1sX${sX}(sX).y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $g
ibbs $beta ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";
7041  ##else
7042  ##cmd="$prog fs:${d2}/oob4s_-1N40mbas2_300_1.6_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 $gi
bbs $beta ver:-2 pApAd:${pAs}:${pAd}_LAR:0:0:-1 test:7:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP void:0";$cmd
> /dev/null
7043  ##fi
7044  ##echo "Exec $cmd";$cmd > /dev/null
7045  ##echo $tmp/testsd_stat.dat >> resultsum.dat
7046  ##echo -e "\n" >> resultsum.dat  ############    <== mean,UC of pG
7047  ##cat $tmp/psd.dat >> psdsum.dat ############    <== pG for all tests for speaker
7048  ##done #for sX excluded speaker
7049  ##done # for iCs           #done #LoopLevel1:for iCs $SiCs;
7050  ###############################################
7051  ##### obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGC[n
l[t](pG),(4)test->pGCd[n]t](pG),(5)sX
7052  ###########################################
7053  #####show t vs. pG of resultsum.dat
7054  ##fntpG="tmp/t-pGmean";
7055  ##gnuplot <<EOF
7056  ##set term postscript;set output "$fntpG.eps";
7057  ##plot "resultsum.dat" using 1:2:($2-$4):($2+$5) w errorbars, "" using 1:2 w l lc rgb 'blue'
7058  ##quit
7059  ##EOF
7060  ##### the following takes a lot of time to display via gnuplot
7061  ##cmd="gv $fntpG.eps"; echo "Manually Exec $cmd";$cmd
7062  ##fntpG="tmp/tpGall"
7063  ##gnuplot <<EOF
7064  ##set term postscript:set output "$fntpG.eps";
7065  ##plot "psdsum.dat" using 1:3 w d
7066  ##quit
7067  ##EOF
7068  ##cmd="gv $fntpG.eps"; echo "Exec $cmd"; $cmd&
7069  ##cmd="cat tmp/Ctotp.sh";echo "Manually Exec $cmd";$cmd
7070  ##export C1012="3 30 33 50 53 70 73 85 88 105 108 115 118 135 138 140 143 160 "; #Sequence of time
points changing the class Ct,Co,Ct,Cp ...
7071  ###[2]
7072  #####making training histgram for probabilistic prediction
7073  ##### class Cp: prompted speaker's digits, Co:other speaker's, Ct:transient
7074  ##t=0
7075  ##for CpG in "p" "t" "o" ; do  # CLASS of pG
7076  ##export CpG
7077  ##fb0=C${CpG}
7078  ##fbr=${d1}/resultp_${fb0}
7079  ##cat /dev/null > ${fb0}.dat
7080  ##cat psdsum.dat|awk 'BEGIN{CpG=ENVIRON["CpG"];}{
7081  ###if((((CpG=="p")&&($1>=33)&&($1<43)) ||  ($1>=50)&&($1<57))))||
7082  ###   if((((CpG=="t")&&($1>=23)&&($1<33)) ||  ($1>=40)&&($1<47))))||
7083  ###   ((CpG=="p")&&($1>=20)&&($1<23) ||  ($1>=50)&&($1<57))))||
7084  ###   ((CpG=="t")&&($1>=20)&&($1<23) ||  ($1>=40)&&($1<47))))||
7085  ###   ((CpG=="o")&&($1>=20)&&($1<30) ||  ($1>=10)&&($1<20))))||
7086  #LoopLevel1: for CpG
7087  ###???
```

```
7094 ####    if((((CpG="p")&&($1>=25)&&($1<35)) || \
7095 ####            (((CpG="t")&&($1>=40)&&($1<25)) || (($1>=40)&&($1<45)))) ||
7096 ####            ((CpG="o")&&($1>=10)&&($1<20)))
7097 ####{print $3,$0;}}' >> ${fb0}.dat ;
7098 ####wc ${fb0}.dat
7099 ####cmd1=cp ${fb0}.dat ${fbr}.dat"
7100 ####echo $cmd1;$cmd1
7101 ####inp=10 #33-23                 #number of prompted speaker's digits
7102 ####no=10 #20-10                  #number of other speaker's digits
7103 ####nt=10 #(23-20)+(47-40)        #number of transient digits
7104 ####################################
7105 ####cat /dev/null > ${fbr}_PPtrain.dat  ##PP:Probabilistic Prediction
7106 ####cat /dev/null > ${fbr}_PPtest.dat
7107 ####for sX_ in 0 1 2 3 4 5 6; do            #LoopLeve1:for sX_ in 0 1 2 3
7108 4 5 6;
7109 ##### divide 20000=2000*10 data into 10000=1000*10 each for train and test
7110 ####if [ "$CpG" = "p" ] ; then nd=$np; fi
7111 ####if [ "$CpG" = "t" ] ; then nd=$nt; fi
7112 ####if [ "$CpG" = "o" ] ; then nd=$no; fi
7113 ####export sX_0="expr $sX_ \* 2000 \* $nd`
in.dat"
7114 ####sed -n -e \"'expr $(sX_0) + 1',`expr $(sX_0) + 1000 \* $nd`'p'\"  ${fbr}.dat >> ${fbr}_PPtrain.dat
7115 ####sed -n -e \"'expr $(sX_0) + 1000 \* $nd`p" `expr $(sX_0) + 20000'p'\" ${fbr}.dat >> ${fbr}_PPtrain.dat
7116 _PPtest.dat"
7117 ####PPfiles="${PPfiles} ${fbr}"
7118 ####done #for sX_                            #Done:LoopLeve2:for sX_  in 0
1 2 3 4 5 6:
7119 ##########################################
7120 ##### Likelihood P(c_i|p_G) for Probabilistic Prediction
7121 ##### Histgram by moving average of each class?
7122 ####x0=0;ndiv=100:nmav=3
7123 ####cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
7124 ####echo $cmd; $cmd
7125 ####fhe=${dl}/hist-C$(CpG).eps
7126 ####cp $tmp/hist.eps $fhe
7127 ####gv $fhe& #disp result
7128 ####cp $fhg.dat $tmp/histtmp.dat
7129 ####cat tmp/hist.dat |awk '{print $3}' > tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat
7130 ###
7131 ###sleep 2;
7132 ####done #for CpG in "p" "t" "o" ;            #Done:LoopLeve1: for CpG
7133 ##### insert first column to be the value of pG, while 2,3,4 columns P(c_i|p_G) for c_i=Cp, Ct, Co,
respectively
7134 ##### Show Likelihood P(c_i|p_G), and P(p_G)
7135 ####fpdg=$dl/ProbDistSpeaker
7136 .dat tmp/hist1.dat > $fhg.dat ###
7137 ####cat /dev/null > $fpdg.dat
7138 0sum/psum,p1sum/psum,p2sum/psum);}' >> $fpdg.dat
7139 ####gnuplot <<EOF
7140 ####set xrange [0:1.3]; set style data boxes; #set style data histeps
7141 ####set style fill solid border lc rgb "black"
7142 ####set term tgif;set output "$fpdg.obj";
7143 ####plot "$fpdg.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Prompted Speaker", "" using 1:(\$3+\$4) l
c rgb "yellow" t "Transient", "" using 1:(\$4) lc rgb "red" t "Other Speaker"
7144 ####set term postscript;set output "$fpdg.eps";replot
7145 ####set term postscript:set output "$fpdg-pdist.eps";plot "$fhg.dat" using 4:(\$1+\$2+\$3) lc rgb "g
reen" t "p(p_G)"
7146 ####EOF
7147 ####gnuplot
7148 ####quit
7149 ####EOF
7150 ####show
7151 ####cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&        #show p(c_i|p_G)
7152 ####cmd="gv $fpdg-pGdist.eps"; echo "Exec $cmd."; $cmd& #show p(pG)
7153 ###
7154 ####for CpG in "p" "t" "o" ; do   # CpG(phase) for w:prompted-word o:other-word, t:transient
7155 ####evalloss                                                        ##all
7156 ####dd=~/sotu/2015/can2b
7157 ####dd0=~/sotu/2015/can2b
7158 ####fpdg=$dl/ProbDistSpeaker #defined above
7159 ####foutall=pGall;cat /dev/null > ${foutall}.output ###all
7160 ####ftgtall=Ctgtall;cat /dev/null > ${ftgtall}.target
7161 ####for CpG in "p" "t" "o" ; do    #Loop
7162 ####if [ $CpG = "p" ] ; then Ctgt=0; ntest=`expr 7 \* 1000 \* ${np}`; fi #prompted
7163 ####if [ $CpG = "t" ] ; then Ctgt=1; ntest=`expr 7 \* 1000 \* ${nt}`; fi #transient
```

```
7164 ####if [ $CpG = "o" ] ; then Ctgt=2; ntest=`expr 7 \* 1000 \* ${no}`; fi #other
7165 ####fout=p$(CpG);cp $(CpG):cp ${dl}/resultp_C$(CpG)_PPtest.dat ${fout}.output;#
7166 ####fout=$(dl}/resultp_C$(CpG).dat
7167 ####ftgt=C$(Ctgt);cat /dev/null > ${ftgt}.target
7168 ####i=1;while [ $i -le $ntest ] ;do echo "$(Ctgt)" >> ${ftgt}.target;
; then echo -n "." ; fi; i=`expr $i + 1`; done
7169 ####mktarget $(Ctgt) $ntest > ${ftgt}.target;
7170 ####cmd="wc ${fout}.output";echo $cmd;$cmd check the number of lines in the files
7171 ####cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo -n "#$(cmd)#
#";$cmd
7172 ####cat ${fout}.output >> ${foutall}.output;
7173 ####cat ${ftgt}.target >> ${ftgtall}.target; ##all
7174 ####done #for CpG
Level 1:for CpG in "p" "o" "t" ; do
7175 ####cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:0.5:0";echo -n "#$
{cmd}##";$cmd
7176 ########## copy and paste to here for (1)
7177 ###
7178 ###
7179 ####beta:0.5:0.2  SiCs="3"(unregistered) bad but best?
7180 ####evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.target o:pGp.output vth:0.5:0##0
.025 0.147 0.547 0.673 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7181 ####evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.target o:pGt.output vth:0.5:0##0
.682 0.764 0.814 1.111 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7182 ####evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.target o:pGo.output vth:0.5:0##0
.566 0.416 0.686 1.000 3 273000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7183 ####evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.target o:pGall.output vth:0
.5:0##0.438 0.396 0.668 0.929 3 469000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7184 ###
7185 ####beta:0.5:0.1  for area3 SiCs="3"(unregistered) bad but best?
7186 ####pGp.output vth:0.5:0##0.002 0.009 0.439 0.446 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7187 t o:pGt.output vth:0.5:0##0.027 0.237 0.237 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7188 t o:pGt.output vth:0.5:0##0.235 0.747 1.332 1.401 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7189 t o:pGo.output vth:0.5:0##0.889 0.834 0.870 1.157 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7190 t o:pGo.output vth:0.5:0##0.212 0.256 0.408 0.692 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:0.5:0##0.368 0.366 0.572 0.765 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7191 ####beta:0.5:0.1  for area3
7192 t o:pGp.output vth:0.5:0##0.002 0.027 0.237 0.237 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7193 t o:pGt.output vth:0.5:0##0.002 0.012 0.229 0.229 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7194 t o:pGt.output vth:0.5:0##0.747 1.332 1.401 1.470 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7195 t o:pGo.output vth:0.5:0##0.222 0.747 1.401 1.470 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7196 t o:pGo.output vth:0.5:0##0.000 0.006 0.150 0.156 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:0.5:0##0.079 0.260 0.573 0.598 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7197 ####beta:0.5:0.1 best LNLP,LNLPD for area1
7198 t o:pGp.output vth:0.5:0##0.000 0.005 0.149 0.154 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7199 t o:pGp.output vth:0.5:0##0.002 0.012 0.229 0.229 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7200 t o:pGt.output vth:0.5:0##0.484 0.712 2.211 2.312 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7201 t o:pGo.output vth:0.5:0##0.000 0.005 0.149 0.154 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:0.5:0##0.075 0.255 0.593 0.618 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7202 ####beta:0.5:0.2 best LACE for area1
7203 t o:pGp.output vth:0.5:0##0.002 0.024 0.915 0.949 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7204 t o:pGp.output vth:0.5:0##0.003 0.031 0.385 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7205 t o:pGt.output vth:0.5:0##0.010 0.975 1.912 1.940 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7206 t o:pGo.output vth:0.5:0##0.005 0.016 0.172 0.179 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:0.5:0##0.005 0.148 0.153 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7207 ####beta:1:0 = Bayes for area1
7208 t o:pGp.output vth:0.5:0##0.028 0.038 0.316 0.333 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7209 t o:pGt.output vth:0.5:0##0.162 0.249 0.915 0.950 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:0.5:0##0.162 0.249 0.915 0.950 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7210 t o:pGo.output vth:0.5:0##0.005 0.016 0.172 0.179 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7211 t o:pGo.output vth:0.5:0##0.000 0.005 0.148 0.153 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
target o:pGall.output vth:1:0##0.343 0.800 0.817 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7212 ####beta:1:1 GEBI for area1
7213 t o:pGp.output vth:0.5:0##0.015 0.343 0.800 0.817 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7214 t o:pGp.output vth:0.5:0##0.989 0.421 1.281 1.281 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7215 t o:pGt.output vth:0.5:0##0.763 0.019 0.056 0.057 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
```

```
t o:pGo.output vth:0.5:0##0.000 0.014 0.364 0.380 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7216 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.
target o:pGall.output vth:0.5:0##0.584 0.151 0.567 0.573 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7217 ####beta:0.5:0.3 for areal
7218 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.targe
t o:pGp.output vth:0.5:0##0.008 0.941 1.098 1.099 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7219 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.targe
t o:pGt.output vth:0.5:0##0.782 0.885 3.732 3.748 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7220 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.targe
t o:pGo.output vth:0.5:0##0.000 0.005 0.195 0.200 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7221 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.
target o:pGall.output vth:0.5:0##0.263 0.610 1.675 1.683 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7222 ####beta:0.5:0.3 with 25 for areal
7223 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C0.targe
t o:pGp.output vth:0.5:0##0.003 0.006 0.020 0.021 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7224 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C1.targe
t o:pGt.output vth:0.5:0##0.994 0.910 3.994 3.994 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7225 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.targe
t o:pGo.output vth:0.5:0##0.000 0.005 0.180 0.182 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7226 ####/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.
target o:pGall.output vth:0.5:0##0.332 0.307 1.398 1.399 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7227 ##
7228 ##
7229 ##
7230 ##201600131
7231 ##
7232 ##############  copy and paste from here for (1)
7233 ##prog=speakerdigit_v6
7234 ##make
7235 ####d1=../result-speaker_search; if [ ! -e $d1 ]; then mkdir $d1;fi
7235 ####d2=/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/12voicedata/allpole:d
2seps="_"
7236 ####d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep="_"
7237 ####d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/d2sep=":"
7238 ####d2=~/../2012/12voicedata/iconip14data;d2sep=":"
7239 ####d2=~/../2012/12voicedata/allpole/d2sep=":"
7240 ####d2=~/sotu/2012/12voicedata/allpole/d2sep=":"
7241 ####SiCs4D="0""#SiCs4D="0 3 2";
7242 ####cat /dev/null > resultsum.dat
7243 ####for SD in "S"; do # SD="S"; SD="D";
oopLevel1:for SD
7244 ####for gibbs in 1; do #for gibbs in 1 0: do
7245 ####tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
oopLevel2:for gibbs
7246 ####if [ $gibbs -eq 1 ]; then
7247 ####pAs=0.80:pAd=0.96;T=5;TT=15;gibbs=1;    #for GEBI pApAd:pA:pAd
7248 ####else
7249 ####pAs=0.99:pAd=0.80;T=5;TT=15;gibbs=0:  #for BI    pApAd:pA:pAd
7250 ####fi
7251 ####fhg=$tmp/histSpeaker:cat /dev/null > $fhg.dat #Initialize
7252 ####if [ "$SD" = "D" ]; then
7253 ####SiCs=$SiCs4D:   #for only Correct speakers # SiCs="0";  #for only Correct speakers
7254 ####else
7255 ####SiCs="2";  #for 3:Unregistered, 2:Incorrect SiCs="0 3 2"; #for Correct, Unregistered, Incorrect
7256 ####fi
oopLevel3:for iCd in 0:
7257 ####for iCd in 0: do  #for iCd in 0 1 2 3 4 5: do  ##
7258 ####for iCs in $SiCs: do    ## for iCs in 0 0 0: do for iconip2015 with SD=D and    #L
oopLevel4:for iCs in $SiCs: do
7259 ####cat /dev/null > resultsum.dat
7260 ####cat /dev/null > psdsum.dat
7261 ####for sX in 0 1 2 3 4 5: do sP=-1:
oopLevel5:for sX in 0 1 2 3 4 5:                                                            #L
7262 ####test=test:5:2000:${iCs}:${iCd}:5:15:  #test=test->id:test->n:test->riCs:test->t_iCd:th->T
7263 ####"$d2sep" = ":" ; then Hytm:1:0.9:1000 or ytm:1:0.9:2000
7264 ####if [ "$d2sep" = ":" ] ; then Hytm:1:0.9:1000 or ytm:1:0.9:2000
7265 ####cmd=$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:lsX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gib
bs:$gibbs beta:0.5:0.3 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:0:20:100:20:2 sX:$sX sP:$sP
void:0";
7266 ####cmd=$prog fs:${d2}/oob4s:-1N40mbas2_300_1.6_lsX${s
X}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$gibbs beta:1 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:
2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";$cmd > /dev/null
d:0";
7267 ####else
7268 ####for d2 for file names with under-bar " ", not colon ":"
7269 ####cmd=$prog fs:${d2}/oob4s:-1N40mbas2_300_1.6_lsX${sX}.y fd:${d2}/oob4d_-1N10mbas2_300_1.6_lsX${s
2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0":$cmd > /dev/null
7270 ####fi
7271 ####echo "Exec $cmd":$cmd
7272 ####cat $tmp/tested_stat.dat >> resultsum.dat
7273 ####echo -e "\n" >> resultsum.dat
7274 ####cat $tmp/psd.dat >> psdsum.dat ############# <== $prog.c .pG for speaker and digits ##psd.dat->psds
um.dat
```

```
7275 ##done #for sX excluded speaker                                                            #d
one #LoopLevel5:for sX in 0 1 2 3 4 5;
7276 ##done # for iCs                                                                          #done
LoopLevel4:for iCs $SiCs;
7277 ##done # for iCd                                                                          #done
LoopLevel3:for iCd in 0:
7278 ##done
7279 ##done #for gibbs in 1; do #for gibbs in 1 0: do
#LoopLevel2:for gibbs
7280 ##done #for SD in "S"; do # SD="S"; SD="D";
#LoopLevel1:for SD
7281 ####show the t-pG
7282 ##fntpG="tmp/t-pGmean"
7283 ##gnuplot <<EOF
7284 ##set term postscript:set output "$fntpG.eps";
7285 ##plot "resultsum.dat" using 1:2:(\$2-\$4):(\$2+\$5) w errorbars, "" using 1:2 w l lc rgb "blue"
7286 ##quit
7287 ##EOF
7288 ######
7289 ##cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
7290 ##fntpG="tmp/tpGall"
7291 ##gnuplot <<EOF
7292 ##set term postscript:set output "$fntpG.eps";
7293 ##plot "psdsum.dat" using 1:3 w d
7294 ##quit
7295 ##EOF
7296 ######
7297 ##cmd="gv $fntpG.eps"; echo "Exec $cmd."; $cmd&
7298 ##plot "psdsum.dat" using 1:3
7299 ##
7300 ################################################# c
7301 #### obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGC[n
l[t|(pGs),(4)test->pGCd[n|t|(pGd),(5)sX
7302 ###### making training and test data for S
7303 ###### making training and test data for S
7304 ######
7305 ####class histgram
7306 ##for PH in "p" "t" "o" ; do   # PH(phase) for w:prompted-word o:other-word, t:transient   #LoopLe
vel 3:for PH in "p" "o" "t"; do                                                            ##????
7307 ##fb0=C$[PH}
7308 ##fbr=${d1}/resultp_${fb0}
7309 ##cat /dev/null > ${fb0}.dat
7310 ##export PH
7311 ##cat psdsum.dat|awk 'BEGIN{PH=ENVIRON["PH"];}{
7312 ##  if(((PH=="p")&&($1>=23)&&($1<33)) ||
7313 ##    ((PH=="t")&&($1>=20)&&($1<23)) ||    (($1>=40)&&($1<47)))||
7314 ##    ((PH=="o")&&($1>=10)&&($1<20))) {print $3,$0}}' >> ${fb0}.dat ;
7315 ##wc ${fb0}.dat
7316 ##cmd="cp ${fb0}.dat ${fbr}.dat"
7317 ##echo $cmd1:$cmd1
7318 ##np=10 #33-23
7319 ##nt=10 #(23-20)+(47-40)
7320 ##no=10 #20-10
7321 ###############################
7322 ##cat /dev/null > ${fbr}_PPtrain.dat #PP:Probabilistic Prediction
7323 ##cat /dev/null > ${fbr}_PPtest.dat
7324 ##for sX_ in 0 1 2 3 4 5: do                                                              #LoopL
eve4:for sX_ in 0 1 2 3 4 5;
7325 #### divide 20000=2000*10 data into 10000=1000*10 each for train and test
7326 ##if [ "$PH" = "p" ] ; then nd=$np; fi
7327 ##if [ "$PH" = "t" ] ; then nd=$nt; fi
7328 ##if [ "$PH" = "o" ] ; then nd=$no; fi
7329 ##export sX_0=`expr $sX_ \* 2000 \* $nd`
7330 ##sed -n -e '\'expr ${sX_0} + 1',`expr ${sX_0} + 1000 \* $nd`p\'  ${fbr}.dat >> ${fbr}_PPtra
in.dat"
7331 ##sed -n -e '`expr ${sX_0} + 1',`expr ${sX_0} + 1000 \* $nd`p'  ${fbr}_PPtrain.dat
7332 ##echo 'sed -n -e \'`expr ${sX_0} + 1000 \* $nd + 1',`expr ${sX_0} + 20000`p\'  ${fbr}.dat >> ${fbr}
_PPtest.dat"
7333 ##sed -n -e '`expr ${sX_0} + 1000 \* $nd + 1',`expr ${sX_0} + 2000 \* $nd`p' ${fbr}.dat >> ${fbr}_P
Ptest.dat
7334 ##Ppfiles="${Ppfiles} ${fbr}"
7335 ##done #for sX_
oopLevel4:for sX_
7336 ##### Histgram by moving average of each class?
7337 ##x0=0:ndiv=100:nmav=3
7338 ##x0=0:ndiv=100:nmav=3
7339 ##histmav1-onset $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
7340 ##echo $cmd:$cmd
7341 ##fhe=${d1}/hist-C${PH}.eps
7342 ##cp $tmp/hist.eps $fhe
7343 ##gv $fhe& #disp result
7344 ##cp $fhg.dat $tmp/histtmp.dat                                                            #Done:L
```

```
7345 ##cat tmp/hist.dat |awk '{print $3}'> tmp/hist3.dat;paste $tmp/histmp.dat tmp/hist3.dat > $fhg.dat
     ###
7346 ###sleep 2;
7347 ###done #for PH in "p" "t" "o" ; do    # PH(phase) for w:prompted-word o:other-word, t:transient    #
     LoopLevel 5:for Wn in 3 4 5;
7348 #########
7349 ###
7350 #### Probability P(c_l|p_G) for Probabilistic Prediction (fpdg=$dl/ProbDistG${gibbs}${SD})
7351 ###fpdg=$dl/ProbDistSpeaker
7352 ###fpdg=$dl/ProbDistSpeaker
7353 ###cp $fhg.dat $tmp/histtmp.dat;cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat;paste $tmp/histtmp
     .dat tmp/hist1.dat > $fhg.dat  ###
7354 ###cat /dev/null > $fpdg.dat
7355 #######
7356 ###cat $fhg.dat|awk '{p0sum=$1;p1sum=$2;p2sum=$3;psum=p0sum+p1sum+p2sum;printf("%e %e %e\n",$4, p
     0sum/psum,p1sum/psum,p2sum/psum);}' >> $fpdg.dat
7357 ######
7358 ###quit
7359 ###gnuplot <<EOF
7360 ###set yrange [0:1.3]; set style data boxes; #set style data histeps
7361 ###set style fill solid border lc rgb "black"
7362 ###set term tgif;set output "$fpdg.obj";
7363 ###plot "$fpdg.dat" using 1:($2+\$3-\$4) lc rgb "blue" t "Prompted Speaker", "" using 1:(\$3+\$4) l
     c rgb "yellow" t "Transient", "" using 1:(\$4) lc rgb "red" t "Other Speaker"
7364 ###set term postscript;set output "$fpdg.eps";replot
7365 ###set term postscript;set output "$fpdg-pGdist.eps";plot "$fpdg.dat" using 4:(\$1+\$2+\$3) lc rgb "g
     reen" t "Distribution of pG"
7366 ###quit
7367 ###EOF
7368 ######
7369 ###cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&
7370 ###cmd="gv $fpdg-pGdist.eps"; echo "Exec $cmd."; $cmd&
7371 ###evalloss
7372 ######
7373 ###d0=~/sotu/2015/can2b
7374 ###fpdg=$dl/ProbDistSpeaker #defined above
7375 ###foutall=pGall #defined above
7376 ###foutall=Ctgtall;cat /dev/null > ${foutall}.output ##all
7377 ###fftgtall=Ctgtall;cat /dev/null > ${ftgtall}.target
7378 ###for PH in "p" "t" "o" ; do   # PH(phase) for w:prompted-word o:other-word, t:transient    #LoopLe
     vel 3:for Wn in "p" "o" "t" ; do
7379 ###if [ $PH = "p" ] ; then Ctgt=0; ntest=`expr 7 /\* 1000 /\* ${np}`; fi
7380 ###if [ $PH = "t" ] ; then Ctgt=1; ntest=`expr 7 /\* 1000 /\* ${nt}`; fi #unregistered
7381 ###if [ $PH = "o" ] ; then Ctgt=2; ntest=`expr 7 /\* 1000 /\* ${no}`; fi #incorrect
7382 ###fout=pG${PH};cat /dev/null > ${fout}.output
7383 ###ftgt=C${Ctgt};cat /dev/null > ${ftgt}.target
7384 ###fb0=C${PH};fbr=${dl}/resultp_${fb0}                             ###???
7385 ###cp ${fbr}_PPtest.dat ${fout}.output;#cat ${fbr}_PPtest.dat > ${fout}.output
7386 ###i=1;while [ $i -le $ntest ] ;do echo "$(Ctgt)" >> ${ftgt}.target; if [ `expr $i % 1000` = "0" ]
     ; then echo -n "."; fi; i=`expr $i + 1`; done
7387 ###mktarget ${Ctgt};$ntest > ${ftgt}.target
7388 ###echo "wc ${ftgt}.target >> ${fout}.output
7389 ###wc ${ftgt}.target $ntest > ${fout}.output
7390 ###cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:0.5:0";echo -n "#${cmd}#
     #";$cmd
7391 ###cat ${fout}.output >> ${foutall}.output;
7392 ###cat ${ftgt}.target >> ${ftgtall}.target; ##all
7393 ###done #for PH
7394 ###cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:0.5:0";echo -n "#$
     {cmd}#";$cmd
7395 ####### copy and paste to here for (1)
7396 ###beta:0.5:0.3
7397 t o:pGp.output vth:0.5:0##1.000 0.000 1.786 4.595 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7398 t o:pGp.output vth:0.5:0##0.000 1.000 1.775 1.796 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7399 t o:pGt.output vth:0.5:0##0.000 0.000 0.995 2.048 2.072 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7400 t o:pGo.output vth:0.5:0##0.000 0.005 0.195 0.200 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7401 target o:pGall.output vth:0.5:0##0.333 0.667 1.252 2.197 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7402 ###beta:0.5:0.2
7403 t o:pGp.output vth:0.5:0##1.000 0.000 2.060 4.596 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7404 t o:pGp.output vth:0.5:0##0.000 1.000 2.072 2.049 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7405 t o:pGt.output vth:0.5:0##0.000 0.000 0.995 2.049 2.072 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7406 t o:pGo.output vth:0.5:0##0.000 0.005 0.148 0.153 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7407 target o:pGall.output vth:0.5:0##0.333 0.667 1.419 2.274 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
```

```
7408 t o:pGt.output vth:0.5:0##0.000 0.000 0.996 1.447 1.473 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
     ###/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:C2.targe
7409 t o:pGo.output vth:0.5:0##0.000 0.004 0.275 0.279 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
     ###/home/kuro/sotu/2015/can2b/evalloss4pG p:../result-speaker_search/ProbDistSpeaker.dat t:Ctgtall.
     target o:pGall.output vth:0.5:0##0.333 0.667 1.059 2.116 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7410 ###
7411 ###
7412 #####beta:1:0.2
7413 t o:pGp.output vth:0.5:0##1.000 0.000 2.059 4.588 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7414 t o:pGp.output vth:0.5:0##1.000 1.000 2.048 2.070 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7415 t o:pGt.output vth:0.5:0##0.000 0.000 0.149 0.155 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7416 t o:pGo.output vth:0.5:0##0.000 0.005 0.149 0.155 3 70000 #LAVE,LACE,LNLP,LNLPD,nC ndata
     target o:pGall.output vth:0.5:0 #0.333 0.667 1.419 2.271 3 210000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7417 ###
7418 ###### good?
7419 #####beta:0.5:0.3      2nd mountain shape
7420 ###beta:0.5:0.2 OK?
7421 ###beta:0.5:0.1 OK?
7422 ###beta:0.5:0 NG?
7423 ###
7424 ###cat psdsum.dat | awk '{if($2==100) print $2,$3,$1}'|sort -n > tmp.dat
7425 ###cat psdsum.dat | awk '{if($2==100 && $5==0) print $0;}'|sort -n > tmp.dat
7426 ###
7427 #####easy check of speakerdigit_v6.c from here
7428 ###20160125 speakerdigit_v6.c for speaker-retrieval
7429 ###speakerdigit_v6 fs:/home/kuro/sotu/2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:isX0.y nSDL:
7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 beta:1:0.2 ver:-2 pApAd:0.80:0.96 LAR:0:0:-1 test:7:2000:2:0:20:60:
20:2.sX:0 sP:-1 void:0
7430 ###gnuplot; plot "tmp/tested_stat.dat" using 1:2 w l
7431 #####easy check to here
7432 ###
7433 ###
7434 ###
7435 20160125 speakerdigit_v6.c for speaker search
7436 #[a] gibbs:1:1:0=(gibbs:0    beta:1  )=(gibbs:1 beta:1:0) is conventional BI (Bayes Inference); resul
     t is bad
7437 #[b] gibbs:1:0.2:0=(gibbs:0.2)=(gibbs:1 beta:0.2:0) is better than [a], p^0.2
7438 #[c] gibbs:1:0.1:0=(gibbs:0.1)=(gibbs:1 beta:0.1:0) is better than [a] near to [b]?
7439 #[d] gibbs:1:0.05:0=(gibbs:0.05)=(gibbs:1 beta:0.05:0) is better than [b]-[c] :areas of corre
     st and incorrect speakers become larger
7440 #[e] gibbs:1:0.01:0=(gibbs:1 beta:0.01)=(gibbs:1 beta:0.01:0) is better than [b]-[d] :areas of corre
     st and incorrect speakers become much larger;         range of pG = [0.2, 0.75]
7441 #[e] gibbs:1:0.005:0=(gibbs:0 beta:0.005)=(gibbs:1 beta:0.005:0) is better than [b]-[d] :areas of co
     rrest and incorrect speakers become much much larger; range of pG = [0.33,0.64]
7442 #### #copy and paste from here for (1)
7443 #### check new gibbs, bayes
7444 prog=speakerdigit_v6
7445 make
7446 d1=../result-onsei_iCsiCd_saka; if [ ! -e $dl ]; then mkdir $dl;fi
7447 #d1=../result-onsei_iCsiCd_d;
7448 #d1=../result-onsei_iCsiCd; if [ ! -e $dl ]; then mkdir $dl;fi
7449 d2=/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/12voicedata/allpole/d2se
     p=":"
7450 d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep=" "
7451 d2=~/sotu/2012/iconip_saigen/2012/12voicedata/allpole/d2sep=" "
7452 d2=~/../2012/12voicedata/iconip14data/d2sep=":"
7453 d2=~/../2012/12voicedata/allpole/d2sep=":"
7454 SiCs4D="0"; #SiCs4D="0 3 2";
7455 SiCs4D="0";#SiCs4D="0 3 2";
7456 for SD in "S" "D"; do # SD="S"; SD="D";
7457 tmp=~/tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
7458 for gibbs in 1 ; do
7459 if [ $gibbs -eq 1 ]; then
7460 pAs=0.80:pAd=0.96;T=5;TT=15;gibbs=1;      #for GEBI pApAd:pA:pAd
7461 else
7462 pAs=0.99:pAd=0.80;T=5:TT=15;gibbs=0;      #for BI    pApAd:pA:pAd
7463 fi
7464 fhg=$tmp/histG${gibbs}${SD};cat /dev/null > $fhg.dat #Initialize
7465 if [ '$SD" = "D" ] ; then
7466 SiCs=$SiCs4D;      #for only Correct speakers # SiCs="0";   #for only Correct speakers
7467 else
7468 SiCs="0 3 2"; #for Correct, Unregistered, Incorrect
7469 fi
7470 for iCd in 0 1 2 3 4 5; do  ###########>>
7471 for iCs in $SiCs; do        ### for iCs in 0 0 0; do for iconip2015 with SD=D and <<<<###########
     !!!!
7472 cat /dev/null > resultsum.dat
7473 cat /dev/null > psdsum.dat
7474 for sX in 0 1 2 3 4 5 6; do sP=-1;
```

```
7475  test=test:5:2000:${iCs}:${iCd}:5:15;    #test:test->id:test->n:test->riCs:test->t_iCd:th->T
7476  ###
7477  if [ "$d2sep" = ":" ]; then #ytm:1:0.9:1000 or ytm:n:1:0.9:2000
7478  cmd="$prog fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:${d2}/oob4d:-1N100mbas2:300:1.6:1sX${sX}.
y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$gibbs beta:1:0.95 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:
5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";
7479  #cmd="$prog fs:${d2}/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y fd:${d2}/oob4d:-1N100mbas2:300:1.6:1sX${sX}
.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$gibbs beta:1 ver:-2 pApAd:$T:$sX sP:$sP void:0";
7480  00:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";
7481  else #for file_names with under-bar "_", not colon ":"
7482  #for d2 for file_names with under-bar "_", not colon ":"
7483  fi
7484  echo "Exec $cmd";$cmd > /dev/null
7485  cat /tmp/testsd_stat.dat >> resultsum.dat
7486  echo -e "\n" >> resultsum.dat
7487  cat /tmp/psd.dat >> psdsum.dat ########## <== $prog.c .pG for speaker and digits ##psd.dat->psdsum.
dat
7488  done #for sX excluded speaker
7489  ########################## choose t=15th pG1 and pB=pG0
7490  # obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGCn[lt
l(pGs),(4)test->pGCd[n]lt](pGd),(5)sX
7491  ##########################
7492  ## making training and test data for S and D
7493  ##########################
7494  export t=15;
7495  fb0=t-pG${t};${SD}
7496  fbr=${dl}/resultp_iCs${iCs}iCd${iCd}G${iCd}G${gibbs}_${fb0}
7497  cat /dev/null > ${fb0}.dat
7498  #echo "#pGC,t,n,pGC,pGCd" >> ${fb0}.dat #???
7499  if [ "$SD" = "D" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $4,$0;}}' >> ${f
b0}.dat ; fi ##psdsum.dat ->fb0 for digits
7500  if [ "$SD" = "S" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $3,$0;}}' >> ${f
b0}.dat ; fi ##psdsum.dat ->fb0 for speakers
7501  #cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $3,$0;}}' >> ${fb0}.dat  ##psdsum.dat -
>fb0 for speakers
7502  cmd1="cp ${fb0}.dat ${fbr}.dat"
7503  echo $cmd1;$cmd1
7504  ##########################
7505  #check#export t=15:fb0=t-pG${t};
7506  #check#fbr=${dl}/resultp_iCs${iCs}iCd${iCd}G${gibbs}-${fb0}
7507  cat /dev/null > ${fbr}_PPtrain.dat
7508  cat /dev/null > ${fbr}_PPtest.dat
7509  for sX_ in 0 1 2 3 4 5 6; do
7510  export sX_1000='expr $sX_ \* 2000'
7511  echo "sed -n -e "expr $(sX_1000) + 1',',expr $(sX_1000) + 1000'p"
at"
7512  sed -n -e '\'expr $(sX_1000) + 1',',expr $(sX_1000) + 1000'p"    ${fbr}.dat >> ${fbr}_PPtrain.dat
7513  echo "sed -n -e \'\'expr $(sX_1000) + 1001',\'expr $(sX_1000) + 2000'p" ${fbr}.dat >> ${fbr}_PPtest.d
at"
7514  sed -n -e '\'expr $(sX_1000) + 1001',\'expr $(sX_1000) + 2000'p" ${fbr}.dat >> ${fbr}_PPtest.dat
7515  PPfiles="${PPfiles}${fbr}"
7516  done #for sX_
7517  ##########################
7518  ### Histogram by moving average
7519  ##########################
7520  x0=0;ndiv=100;nmav=3
7521  cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
7522  echo $cmd; $cmd
7523  fhe=${dl}/hist-iCs${iCs}iCd${iCd}G${gibbs}.eps
7524  gv $tmp/hist.eps $fhe
7525  #gv $fhe$ #disp result
7526  cp $fhg.dat $tmp/histtmp.dat
7527  cat tmp/hist.dat |awk '{print $3}' > tmp/hist.dat:paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat  #
##
7528  #paste $tmp/histtmp.dat tmp/hist.dat > $fhg.dat
7529  sleep 2;
7530  ##########################
7531  done # for iCs
7532  done # for iCd
7533  ####
7534  # Probability P(c_i|p_G) for Probabilistic Prediction (fpdg=$dl/ProbDistG$(gibbs)$(SD))
7535  ####
7536  fpdg=$dl/ProbDistG${gibbs}${SD}
7537  cp $fhg.dat $tmp/histtmp.dat:cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat:paste $tmp/histtmp.da
t tmp/hist1.dat > $fhg.dat > $fhg.dat
7538  cat /dev/null > $fpdg.dat
7539  ###
7540  if [ "$SD" = "D" ]; then #for 3=number of iCs candidates
7541  if [ "$iCs4D" = "0" ]; then
```

```
7542  cat $fhg.dat|awk '{p0sum=$1;p1sum=$2;p2sum=$3;p3sum=$4;p4sum=$5;p5sum=$6;p6sum=p0sum+p1sum+p2sum+p3su
m+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$7, p0sum/psum,p1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5s
um/psum)}' >> $fpdg.dat
7544  cat $fhg.dat|awk '{p0sum=$1+$2+$3;p1sum=$4+$5+$6;p2sum=$7+$8+$9;p3sum=$10+$11+$12;p4sum=$13+$14+$15;
p5sum=$16+$17+$18;psum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$19, p0sum/psum,p
1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum)}' >> $fpdg.dat
7545  fi
7546  else ######if [ "$SD" = "S" ]; then
7547  cat $fhg.dat|awk '{p0sum=$1+$4+$7+$10+$13+$16;p1sum=$2+$5+$8+$11+$14+$17;p2sum=$3+$6+$9+$12+$15+$18;
psum=p0sum+p1sum+p2sum;printf("%e %e %e\n",$19, p0sum/psum,p1sum/psum,p2sum/psum)}' >> $fpdg.dat
7548  fi
7549  ##########
7550  if [ "$SD" = "D" ]; then
7551  gnuplot <<EOF
7552  set yrange [0:1.3]; set style data boxes; #set style data histeps
7553  set style fill solid border lc rgb "black"
7554  set term tgif;set output "$fpdg.obj";
7555  plot "$fpdg.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+\$5+\
$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$6+\$7
) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "0/5"
7556  set term postscript;set output "$fpdg.eps";replot
7557  quit
7558  EOF
7559  else
7560  gnuplot <<EOF
7561  set yrange [0:1.3]; set style data boxes; #set style data histeps
7562  set style fill solid border lc rgb "black"
7563  set term tgif;set output "$fpdg.obj";
7564  plot "$fpdg.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker", "" using 1:(\$3+\$4) lc rg
b "yellow" t "Unregistered Speaker", "" using 1:(\$4) lc rgb "red" t "Incorrect Speaker"
7565  set term postscript;set output "$fpdg.eps";replot
7566  quit
7567  EOF
7568  fi
7569  cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&
7570  ######
7571  done #for gibbs
7572  done #for SD
7573  ######### copy and paste to here for (1)
7574  ##################
7575  #(2)evalloss
7576  ##################
7577  #(2-1) eval loss for S
7578  #########copy and paste from here for (2-1)
7579  d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole:d2sep=":"
7580  d2=~/../2012/12voicedata/iconip14data:d2sep=":"
7581  for iCs in 0 3 2; do
7582  d0=~/sotu/2015/can2b
7583  d0=~/../can2b
7584  d1=~/result-onsei_icsiCd_saka; if [ ! -e $d1 ]; then mkdir $d1;fi
7585  cd $d1;
7586  SD="S";#
7587  export Cth=0; ## threshold for LAVE in verification using threshold
7588  for gibbs in 1 0; do
7589  if [ "$gibbs" = "1" ]; then pGth=0.80; else pGth=0.99; fi; ## threshold for LAVE in verification using
threshold
7590  foutall=PG${gibbs}Call${SD};cat /dev/null >${foutall}.output ###all
7591  ftgtall=Call${SD};cat /dev/null > ${ftgtall}.target        ###all
7592  for iCs in 0 3 2; do
7593  if [ $iCs = "0" ] ; then Ctgt=0; fi
7594  if [ $iCs = "3" ] ; then Ctgt=1; fi #unregistered
7595  if [ $iCs = "2" ] ; then Ctgt=2; fi #incorrect
7596  fout=pG${gibbs}C${Ctgt}${SD}
7597  ftgt=C${Ctgt}${SD}
7598  cat /dev/null > ${fout}.output
7599  cat /dev/null > ${ftgt}.target
7600  for iCd in 0 1 2 3 4 5; do #################>>
7601  t=15
7602  fb0=t-pG${t}${SD}
7603  fbr=resultp_iCs${iCs}iCd${iCd}G${gibbs}_${fb0}
7604  #cat ${fbr}_PPtrain.dat >> ${fout}.output
7605  cat ${fbr}_PPtest.dat >> ${fout}.output
7606  #i=1;while [ $i -le 7000 ] ;do echo "${Ctgt}" >> ${ftgt}.target; if 'expr $i % 500' = "0" ] ; then
echo -n '.'; fi; i=`expr $i + 1`; done
7607  mktarget ${Ctgt} $7000 > ${ftgt}.target;
7608  done #for iCd
7609  cat ${fout}.output >> ${foutall}.output; cat ${ftgt}.target >> ${ftgtall}.target: ###all
7610  fpdg=ProbDistG${gibbs}${SD}
7611  cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output vth:$pGth:$Cth"
7612  echo -n "$$cmd ##";$cmd
7613  done #for iCs
```

```
7614  cmd=$d0/evalloss4pG p:$(fpdg).dat t:$(ftgtall).target o:$(foutall).output vth:$pGth:$Cth"; echo -n
"##$cmd" ##!;$cmd; ##!##all
7615  done #for gibbs
7616  cd - ##!;$cmd; ##!##all
7617
7618
7619
7620  (1) oob4speakerdigit+sX.cの出力ファイル名を
7621
7622  20151204
7623  (旧)../../2012/12voicedata/allpole/oob4s:-1N$(N)mbas2:$(b):$(a):1sX$(sX).ystat
7624  (新)../../2012/12voicedata/allpole/oob4s:-1N$(N)mbas2:$(b):$(a):1sX$(sX)nS$(nS)nD$(nD).ystat
7625  のように した？
7626  see 20140502 at mesaho
7627  0 zero rei
7628  1 ichi
7629  2 ni
7630  3 san
7631  4 yon si
7632  5 go
7633  6 roku
7634  7 nana sichi
7635  8 hachi
7636  9 kyu ku
7637
7638  zero:rei:ichi:ni:san:yon:si:go:roku:nana:sichi:hachi:kyu:ku
7639  yu:rei:si:sichi:ku ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX) I
DR:_A"
7640  zero:rei:ichi:ni:san:yon:si:go:roku:nana:hachi:kyu:rei:si:sichi:ku
7641
7642  (1) tune a,b,N via checking error for sX of speaker-CAN2
7643  make data-clean
7644  IDR="_B";#ID to discriminate the Result
7645  IDR="_A";#ID to discriminate the Result
7646  a=1.6;b=300;N=40:IDR="_A"
7647  for sX in -1 0 1 2 3 4 5 6; do
7648  #cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)"
kyu ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)
7649  #cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)
:sichi:hachi:kyu:ku ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole d:-1 N:$(N) sX:$sX ID
R:_B"
7650  #cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)
7651  cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX) I
DR:_B"
7652  echo $cmd;$cmd
7653  cmd="cat ../../2012/12voicedata/allpole/oob4s:-1N$(N)mbas2:$(b):$(a):1sX$(sX)$(IDR).ystat"
7654  echo $cmd;$cmd
7655  done
7656  # for check UnReg error
7657  a=1.6;b=300;N=40:IDR="_A";for sX in -1 0 1 2 3 4 5 6; do speakerdigit_v5 fs:../../2012/12voicedata/a
llpole/oob4si:-1N$(N)mbas2:$(b):$(a):bS$(a)bS$(N)$(sX)"; cat TP.dat; done
7658  a=1.6;b=300;N=40 #TP0.924 TN0.978 ER1.616e-05 n5880(Reg) TP0.000 TN0.909 TN0.909 ER9.267e-05 n5880(UnReg:sX0) TP0
7659  .794 TN0.966 ER3.491e-05 n6860(All)
7660  #a1.6b300N40 #TP0.929 TN0.981 ER1.542e-05 n5880(Reg) TP0.000 TN0.910 ER9.163e-05 n5880(UnReg:sX1) TP0
.808 TN0.969 ER3.243e-05 n6860(All)
7661  #a1.6b300N40 #TP0.935 TN0.980 ER1.451e-05 n5880(Reg) TP0.000 TN0.897 ER1.052e-04 n5880(UnReg:sX2) TP0
.796 TN0.967 ER3.458e-05 n6860(All)
7662  #a1.6b300N40 #TP0.937 TN0.977 ER1.468e-05 n5880(Reg) TP0.000 TN0.917 ER8.434e-05 n5880(UnReg:sX3) TP0
.812 TN0.970 ER3.176e-05 n6860(All)
7663  #a1.6b300N40 #TP0.937 TN0.977 ER1.468e-05 n5880(Reg) TP0.000 TN0.919 ER8.226e-05 n5880(UnReg:sX4) TP0
.801 TN0.967 ER3.381e-05 n6860(All)
7664  #a1.6b300N40 #TP0.929 TN0.977 ER1.613e-05 n5880(Reg) TP0.000 TN0.906 ER9.579e-05 n5880(UnReg:sX5) TP0
.788 TN0.965 ER3.601e-05 n6860(All)
7665  #a1.6b300N40 #TP0.927 TN0.980 ER1.572e-05 n5880(Reg) TP0.000 TN0.924 ER7.705e-05 n5880(UnReg:sX6) TP0
.817 TN0.971 ER3.083e-05 n6860(All)
7666
7667  (2) tune a,b,N via checking error for sX of digit-CAN2
7668  #see 2013/02/27
7669  IDR="_B";#ID to discriminate the Result
7670  IDR="_A";#ID to discriminate the Result
7671  a=1.6;b=300;N=100
7672  for sX in -1 0 1 2 3 4 5 6; do
7673  #cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)
kyu ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole d:-1 N:$(N) sX:$sX"
7674  #cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole s:-1 N:$(N) sX:$(sX)
:sichi:hachi:kyu:ku ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole d:-1 N:$(N) sX:$sX ID
R:_B"
7675
7676  cmd="oob4speakerdigit+sX sp:$(b):$(a):1 dir:../../2012/12voicedata/allpole d:-1 N:$(N) sX:$sX hachi:k
```

```
yu:rei:si:sichi:ku ntxi:10 k:36 mbas2:$(b):$(a):1 dir:../../2012/12voicedata/allpole d:-1 N:$(N) sX:$sX IDR
:_A"
7677  echo $cmd;$cmd
7678  cmd="cat ../../2012/12voicedata/allpole/oob4d:-1N$(N)mbas2:$(b):$(a):1sX$(sX)$(IDR).ystat"
7679  echo $cmd;$cmd
7680  done
7681  # for check UnReg error
7682  a=1.6;b=300;N=100:IDR="_A";for sX in -1 0 1 2 3 4 5 6; do speakerdigit_v5 fd:../../2012/12voicedata/
allpole/oob4d:-1N$(N)mbas2:$(b):$(a):1sX$(sX)$(IDR).y nSDL:7:14:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 beta:1 s
dP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:: LAR:0:0:-1 test:5:1000:3:0:5:15 sX:$${
sX} void:0 |grep "#TP">STP.dat;echo -n "#a$(a)b$(b)N$(N)";cat TP.dat; done
7683  #a1.6b300N100 #TP0.940 TN0.992 ER4.960e-06 n13720(Reg) TP0.214 TN0.964 ER4.194e-04 n1960(UnReg:sX0)
7684  #a1.6b300N100 #TP0.931 TN0.995 ER6.331e-06 n11760(Reg) TP0.257 TN0.960 ER3.995e-04 n1960(UnReg:sX1)
TP0.867 TN0.990 ER1.044e-05 n13720(Reg)
7685  #a1.6b300N100 #TP0.936 TN0.995 ER5.895e-06 n11760(Reg) TP0.579 TN0.977 ER2.268e-04 n1960(UnReg:sX2)
TP0.865 TN0.990 ER1.055e-05 n13720(All)
7686  #a1.6b300N100 #TP0.932 TN0.994 ER6.284e-06 n11760(Reg) TP0.450 TN0.983 ER2.893e-04 n1960(UnReg:sX3)
TP0.889 TN0.992 ER8.716e-06 n13720(All)
7687  #a1.6b300N100 #TP0.938 TN0.995 ER5.731e-06 n11760(Reg) TP0.393 TN0.974 ER3.232e-04 n1960(UnReg:sX4)
TP0.903 TN0.993 ER7.562e-06 n13720(All)
7688  #a1.6b300N100 #TP0.937 TN0.995 ER5.755e-06 n11760(Reg) TP0.671 TN0.990 ER1.730e-04 n1960(UnReg:sX5)
TP0.896 TN0.992 ER8.159e-06 n13720(All)
7689  #a1.6b300N100 #TP0.948 TN0.996 ER4.828e-06 n11760(Reg) TP0.386 TN0.972 ER3.277e-04 n1960(UnReg:sX6)
TP0.930 TN0.995 ER5.486e-06 n13720(All)
7690  #a1.6b300N100 #TP0.952 TN0.997 ER4.337e-06 n11760(All)
7691  TP0.907 TN0.993 ER7.312e-06 n13720(All)
7692
7693  #####################################
7694  #####################################
7695
7696  20151027~20151016
7697  (1) 坂下君のPCでコンパイルしたものは、発生した乱数が黒木のものと違う。
7698  zmtrandを使い、seedも設定しているのは違うのはおかしい！
7699  確認は坂下君と黒木のPCで実行しながら比べるしかない？
7700  speakerdigit_v5 fd:/home/kuro/sotu/2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX0.y nSDL:7:
10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-
2 pApAd:0.80:0.96 LAR:0:0:-1 test:5:2000:0:0:5:15 sX:0 void:0
7701  head tmp/testsd_stat.dat
7702  diff tmp/testsd.dat ~/sotu/2015/can2b/tmp/testsd.dat
7703  head -1045 tmp/testsd.dat
7704
7705  (2) evalloss4pG.cで、エラー値"inf"がでていたが これは log(p)=log(0)を計算していたから。
7706  そこでpは Pmin=0.01から Pmax=0.99で頭打ちするようにした。
7707
7708  #####################################
7709  20151027~20151008修正 <- 20151017修正 <- 20150915
7710  20151027~20151008修正~ 20151008若干下側修正 <- 20150915
7711  (0) L_(ACE), L_(NLP), L_(NLPD)を計算するプログラム evalloss4pG.c を作成し、実行スクリプト（下記）を
修正した。
7712  (0-1) 坂下君が求めた ICONIP2015の論文
7713  http://kurolab.cntl.kyutech.ac.jp/~kuro/sotu/2015/15iconip/iconip15speech+.pdf
7714  のFig.3のTable1の結果と違う
7715  原因1：ICONIP2015の数字分類の結果は、正解話者のみについて行っているもの。
7716  （下のスクリプトでSiCs4D=0"、"となっている）
7717  (OS,コンパイラ等の違い？)
7718  原因2：コンパイルの結果の実行可能ファイル speakerdigit_v5が、坂下君と黒木のPCで違う（PC,ホスト
OS,コンパイラ等の違い？）。
7719  →坂下君のPCでコンパイルした speakerdigit_v5を使って下の実験をした結果、
7720  まったく（同じではないが、ほぼ同じ値の結果）をもつ結果が得られた？
7721  (0-2) 以下の (1),(2-1),(2-2),(2-3)は実行例を示す。
7722  #####################################
7723  #(1) 数字 and 話者 combined by kuro from the scripts by Sakashita
7724  #iCs=0;iCd=0: # test correct (registered) speaker
7725  #iCs=1;iCd=0: # test incorrect (registered) speaker
7726  #iCs=3;iCd=0: # test incorrect registered and unregistered sX
7727  #iCs=3;iCd=0: # test incorrect unregistered sX
7728  #iCs=2;iCd=0: # test incorrect registered
7729  ######copy and paste from here for (1)
7730  make
7731  d1=../result-onsei_iCsiCd_saka: if [ ! -e $d1 ]; then mkdir $d1:fi
7732  #d1=../result-onsei_iCsiCd:
7733  #d1=../result-onsei_iCsiCd: if [ ! -e $d1 ]; then mkdir $d1:fi
7734  d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/:d2sep=":"
p=" "
7735  d2=/media/sf_D_DRIVE/cdata/15iconip/20150917takeguchi/12voicedata_sakashita/12voicedata_sakashita/allpole/allpole:d2se
p=" "
7736  d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/:d2sep="_"
7737  d2=~/sotu/2015/iconip/saigen/2012/12voicedata/:d2sep="_"
7738  d2=~/sotu/2015/iconip/iconip14data/d2sep="_"
7739  d2=~/../2012/12voicedata/allpole/iconip14data/d2sep=":"
7740  d2=~/../2012/12voicedata/allpole/allpole:d2sep=":"
7741  SiCs4D="0"'#SiCs4D=0 3 2";
7742  for SD in "S" "D"; do # SD="S"; SD="D";
7743  tmp=../tmp/if [ ! -e $tmp ]; then mkdir $tmp:fi
7744  for gibbs in 1 0; do
```

```
7742 if [ $gibbs -eq 1 ]; then
7743 pAs=0.80:pAd=0.96:T=5:TT=15:gibbs=1;    #for GEBI pApAd:pA:pAd
7744 else
7745 pAs=0.99:pAd=0.80:T=5:TT=15:gibbs=0;    #for BI    pApAd:pA:pAd
7746 fi
7747 fhg=$tmp/histc$(gibbs)${SD}:cat /dev/null > $fhg.dat #Initialize
7748 if [ "$SD" = "D" ]; then
7749 SiCs=$SiCs4D:    #for only Correct speakers    #for only Correct speakers
7750 else
7751 SiCs="0 3 2"; #for Correct, Unregistered, Incorrect
7752 fi
7753 for iCd in 0 1 2 3 4 5; do    #####for iCd
7754 for iCs in $SiCs; do    ### for iCs in 0 0 0; do for iconip2015 with SD=D and <<<<###########!!!!
7755 cat /dev/null > resultsum.dat
7756 cat /dev/null > psdsum.dat
7757 for sX in 0 1 2 3 4 5 6; do sP=-1;
7758 test=test:5:2000:${iCs}:${iCd}:5:15;    #test=test->id:test->n:test->riCs:test->t_iCd:th->T
7759 ###
7760 if [ "$d2sep" = ":" ] ; then #ytm:1:0.9:1000 or ytm:1:0.9:2000
7761 cmd="speakerdigit_v5 fs:${d2}/oob4s:-1N40mbas2:300:1.6:isX${sX}.y fd:${d2}/oob4d:-1N100mbas2:300:1.6
:isX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0
:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void
:0";$cmd > /dev/null
7762 else
7763 cmd="speakerdigit_v5 fs:${d2}/oob4s:-1N40mbas2_300_1.6_1sX${sX}.y fd:${d2}/oob4d:-1N40mbas2_300_1.6
_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0
:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void
:0";$cmd > /dev/null
7764 #for d2 for file_names with under-bar "_", not colon ":"
7765 fi
7766 cat $tmp/testd_stat.dat >> resultsum.dat
7767 echo -e "\n" >> resultsum.dat
7768 cat $tmp/psd.dat >> psdsum.dat  ############### <= speakerdigit_v5.c ,pG for speaker and digits ##psd.da
t->psdsum.dat
7769 done #for sX excluded speaker
7770 ###############################################   choose t=15th pG1 and pB=pG0
7771 # obtained psdsum.dat consists of lines involving (1)t(step),(2)n(number of data),(3)test->pGCn[t
](pGs),(4)test->pGCd[n][t](pGd),(5)sX
7772 ##t->test->pGCd[n][t](pGd),(5)sX
7773 ### making training and test data for S and D
7774 ###############################################
7775 export t=15;
7776 fb0=t-pG$(t):${SD}
7777 fbr=${d1}/resultp_iCs${iCs}iCd${iCd}G$(iCd)G${gibbs}-${fb0}
7778 cat /dev/null > ${fb0}.dat
7779 #echo "#pGC,t,n,pGC,pGCd" >> ${fb0}.dat #??
7780 if [ "$SD" = "D" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $4,$0;}}' >> ${f
b0}.dat ; fi ##fpsdsum.dat ->fb0 for digits
7781 if [ "$SD" = "S" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $3,$0;}}' >> ${f
b0}.dat ; fi ##psdsum.dat ->fb0 for speakers
7782 #cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $3,$0;}}' >> ${fb0}.dat  ##psdsum.dat -
>fb0 for speakers
7783 cmd1="cp ${fb0}.dat ${fbr}.dat"
7784 echo $cmd1;$cmd1
7785 #####################
7786 #Check#export t=15;fb0=t-pG$(t)
7787 #check#fbr=${d1c}/resulp_iCs${iCs}iCd$(iCd)G${gibbs}-${fb0}
7788 cat /dev/null > ${fbr}_PPtrain.dat #PP:Probabilistic Prediction
7789 cat /dev/null > ${fbr}_PPtest.dat
7790 for sX in 0 1 2 3 4 5 6; do
7791 export sX_1000=`expr $sX_ \* 2000`
7792 echo "sed -n -e \"'expr $(sX_1000) + 1',`expr $(sX_1000) + 1000`p\"    ${fbr}.dat >> ${fbr}_PPtrain.d
at"
7793 sed -n -e "`expr ${sX_1000} + 1`,`expr $(sX_1000) + 1000`p"    ${fbr}.dat >> ${fbr}_PPtrain.dat
7794 echo "sed -n -e \"`expr $(sX_1000) + 1001`,`expr $(sX_1000) + 2000`p\" ${fbr}.dat >> ${fbr}_PPtest.d
at"
7795 sed -n -e "`expr ${sX_1000} + 1001`,`expr $(sX_1000) + 2000`p" ${fbr}.dat >> ${fbr}_PPtest.dat
7796 PPfiles="${PPfiles} ${fbr}"
7797 done #for sX_
7798 ### Histgram by moving average
7799 ### Histgram by moving average
7800 x0=0:ndiv=100:nmav=3
7801 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
7802 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
7803 echo $cmd
7804 fhe=${d1}/hist-iCs${iCs}iCd${iCd}G${gibbs}.eps
7805 cp $tmp/hist.eps $fhe
7806 #gv $fhe# #disp result
7807 cp $fhg.dat $tmp/histmp.dat
7808 cat tmp/hist.dat |awk '{print $3} > tmp/histtmp.dat:paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat #
##
```

```
7809 #paste $tmp/histtmp.dat tmp/hist.dat > $fhg.dat
7810 sleep 2;
7811 ###########################
7812 done # for iCs
7813 done # for iCd
7814 #####
7815 # Probability P(c_i|p_G) for Probabilistic Prediction (fpdg=$d1/ProbDistG$(gibbs)${SD})
7816 #####
7817 fpdg=$d1/ProbDistG$(gibbs)${SD}
7818 cp $fhg.dat $tmp/histtmp.dat:cat tmp/hist.dat |awk '{print $1} > tmp/hist1.dat:paste $tmp/histtmp.da
t tmp/hist1.dat > $fhg.dat ###
7819 cat /dev/null > $fpdg.dat
7820 ###
7821 if [ "$SD" = "D" ]; then #for 3=number of iCs candidates
7822 if [ "$SiCs4D" = "0" ]; then
7823 cat $fhg.dat|awk '{p0sum=$1:p1sum=$2:p2sum=$3:p3sum=$4:p4sum=$5:p5sum=$6:psum=p0sum+p1sum+p2sum+p3su
m+p4sum+p5sum:printf("%e %e %e %e %e %e\n",$7, p0sum/psum,p1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5s
um/psum);}' >> $fpdg.dat
7824 else
7825 cat $fhg.dat|awk '{p0sum=$1+$2+$3:p1sum=$4+$5+$6:p2sum=$7+$8+$9:p3sum=$10+$11+$12:p4sum=$13+$14+$15:
p5sum=$16+$17+$18:psum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum:printf("%e %e %e %e %e %e %e\n",$19, p0sum/psum,p
1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum);}' >> $fpdg.dat
7826 fi
7827 else ####if [ "$SD" = "S" ]; then
7828 cat $fhg.dat|awk '{p0sum=$1+$4+$7+$10+$13+$16:p1sum=$2+$5+$8+$11+$14+$17:p2sum=$3+$6+$9+$12+$15+$18:
psum=p0sum+p1sum+p2sum:printf("%e %e %e\n",$19, p0sum/psum,p1sum/psum,p2sum/psum);}' >> $fpdg.dat
7829 fi
7830 if [ "$SD" = "D" ]; then
7831 if [ "$SD" = "D" ]; then
7832 gnuplot <<EOF
7833 set yrange [0:1.3]; set style data boxes; #set style data histeps
7834 set style fill solid border lc rgb "black"
7835 set term tgif;set output '$fpdg.obj';
7836 plot '$fpdg.dat' using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+\$5+\
$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$6+\$7
) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "0/5"
7837 set term postscript;set output '$fpdg.eps':replot
7838 quit
7839 EOF
7840 else
7841 gnuplot <<EOF
7842 set yrange [0:1.3]; set style data boxes; #set style data histeps
7843 set style fill solid border lc rgb "black"
7844 set term tgif;set output '$fpdg.obj';
7845 plot '$fpdg.dat' using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker", "" using 1:(\$3+\$4) lc rg
b "yellow" t "Unregistered Speaker", "" using 1:(\$4) lc rgb "red" t "Incorrect Speaker"
7846 set term postscript;set output '$fpdg.eps':replot
7847 quit
7848 EOF
7849 fi
7850 cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&
7851 #######
7852 done #for gibbs
7853 done #for SD
7854 ######### copy and paste to here for (1)
7855 #######
7856 #########################
7857 #(2)evalloss
7858 #(2)evalloss
7859 #(2-OS) eval L_AVE for S
7860 #(2-OS) eval L_AVE for S
7861 #########################
7862 #########################
7863 #(2-1) eval loss for S
7864 #########################copy and paste from here for (2-1)
7865 d2=~/sotu/iconip/iconip_saigen/2012/12voicedata/allpole:d2sep=":"
7866 d2=~../../2012/12voicedata/iconip14data:d2sep=":"
7867 d2=~../../2012/12voicedata/allpole:d2sep=":"
7868 d0=~/sotu/2015/can2b
7869 d0=~../can2b
7870 d1=~../result-onsei_iCsiCd_saka; if [ ! -e $d1 ]; then mkdir $d1;fi
7871 cd $d1;
7872 SD="S":#
7873 export Cth=0: ## threshold for LAVE in verification using threshold
7874 for gibbs in 1 0; do
7875 if [ $gibbs = "1" ]; then pGth=0.80: else pGth=0.99; fi: ## threshold for LAVE in verification using
threshold
7876 foutall=PG$(gibbs)Call$(SD):cat /dev/null >${foutall}.output ##all
7877 ftgtall=Call$(SD):cat /dev/null > ${ftgtall}.target ###all
7878 for iCs in 0 3 2; do
7879 if [ $iCs = "0" ] ; then Ctgt=0; fi
7880 if [ $iCs = "3" ] ; then Ctgt=1; fi #unregistered
```

```
7881  if [ $iCs = "2" ] ; then Ctgt=2; fi #incorrect
7882  fout=PG${gibbs}C${Ctgt}${SD}
7883  fgt=C${Ctgt}${SD}
7884  cat /dev/null > ${fout}.output
7885  cat /dev/null > ${fgt}.target
7886  for iCd in 0 1 2 3 4 5; do #################>>
7887  t=15
7888  fb0=t-pG${t}${SD}
7889  fbr=resultp_iCs${iCs}iCd${iCd}C${gibbs}_${fb0}
7890  #cat ${fbr}_PPtrain.dat >> ${fout}.output
7891  cat ${fbr}_PPtest.dat >> ${fout}.output
7892  echo -n "."; fi: i=`expr $i + 1`; done
7893  mktarget ${Ctgt} $7000 > ${fgt}.target;
7894  done #for iCd
7895  cat ${fout}.output >> ${foutall}.output; cat ${fgt}.target >> ${ftgtall}.target; ###all
7896  fpdg=ProbDistG${gibbs}${SD}
7897  cmd="$d0/evalloss4pG p:${fpdg}.dat t:${fgt}.target o:${fout}.output vth:$pGth:$Cth"
7898  echo -n "#$cmd ##";$cmd
7899  done #for iCs
7900  cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:$pGth:$Cth"; echo -n
      "##$cmd ##";$cmd; ##all
7901  done #for gibbs
7902  cd -
7903  ###############copy and paste to here for (2-1)
7904  ##(2-1)result for d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole:d2sep=":" by the exec
      utables compiled on sakashita's PC
7905  #../can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PG1C0S.output vth:0.80:0     ##0.001 0.003 0
      .015 0.015 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7906  #../can2b/evalloss4pG p:ProbDistG1S.dat t:C1S.target o:PG1C1S.output vth:0.80:0     ##0.011 0.073 0
      .221 0.221 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7907  #../can2b/evalloss4pG p:ProbDistG1S.dat t:C2S.target o:PG1C2S.output vth:0.80:0     ##0.000 0.025 0
      .093 0.093 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7908  #../can2b/evalloss4pG p:ProbDistG1S.dat t:CallS.target o:PG1CallS.output vth:0.80:0  ##0.004 0.033 0
      .110 0.110 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7909  #../can2b/evalloss4pG p:ProbDistG0S.dat t:C0S.target o:PG0C0S.output vth:0.99:0     ##0.049 0.029 0
      .132 0.156 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7910  #../can2b/evalloss4pG p:ProbDistG0S.dat t:C1S.target o:PG0C1S.output vth:0.99:0     ##0.051 0.761 1
      .006 1.012 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7911  #../can2b/evalloss4pG p:ProbDistG0S.dat t:C2S.target o:PG0C2S.output vth:0.99:0     ##0.001 0.018 0
      .447 0.459 3 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7912  #../can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.output vth:0.99:0 ##0.033 0.269 0
      .528 0.542 3 126000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7913
7914  ###result for gibbs=1, d2=../../2012/12voicedata/allpole:d2sep=":" by the executables complied on Ku
      rogi's PC(yuka and mesasho gave same result)=same as 20151016sakashita's
7915  ###result for gibbs 20151016
7916  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PG1C0S.output #LACE=0.00311
      905 LNLPD=0.00820782 LNLPD=0.0110817 nC=3 ndata=42000
7917  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C1S.target o:PG1C1S.output #LACE=0.07159
      52 LNLPD=0.220935 LNLPD=0.220935 nC=3 ndata=42000
7918  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C2S.target o:PG1C2S.output #LACE=0.02504
      76 LNLP=inf LNLPD=0.0966982 nC=3 ndata=42000
7919  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:CallS.target o:PG1CallS.output #LACE=0.0
      33254 LNLP=inf LNLPD=0.109572 nC=3 ndata=126000
7920  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C0S.target o:PG0C0S.output #LACE=0.02607
      14 LNLPD=0.13552 LNLPD=0.165152 nC=3 ndata=42000
7921  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C1S.target o:PG0C1S.output #LACE=0.76209
      5 LNLP=1.0172 LNLPD=1.0172 nC=3 ndata=42000
7922  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C2S.target o:PG0C2S.output #LACE=0.01814
      29 LNLP=0.439341 LNLPD=0.457513 nC=3 ndata=42000
7923  #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.o LACE=0.2
      6877 LNLP=0.530689 LNLPD=0.548739 nC=3 ndata=126000
7924  utput #LACE=0.033254 LNLP=inf LNLPD=0.109572 nC=3 ndata=126000
7925
7926  #(2-1)結果 sakashita's 20151016
7927  #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PG1C0S.outpu
      t #LACE=0.003119905 LNLPD=0.00820782 LNLPD=0.0110817 nC=3 ndata=42000
7928  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1S.dat t:C1S.target o:PG1C1S.outpu
      t #LACE=0.0715952 LNLPD=0.220935 LNLPD=0.220935 nC=3 ndata=42000
7929  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1S.dat t:C2S.target o:PG1C2S.outpu
      t #LACE=0.0250476 LNLPD=inf LNLPD=0.0966982 nC=3 ndata=42000
7930  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1S.dat t:CallS.target o:PG1CallS.o
      utput #LACE=0.033254 LNLP=inf LNLPD=0.109572 nC=3 ndata=126000
7931  #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0S.dat t:C0S.target o:PG0C0S.outpu
      t #LACE=0.0260714 LNLPD=0.13552 LNLPD=0.165152 nC=3 ndata=42000
7932  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0S.dat t:C1S.target o:PG0C1S.outpu
      #LACE=0.762095 LNLP=1.0172 LNLPD=1.0172 nC=3 ndata=42000
7933  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0S.dat t:C2S.target o:PG0C2S.outpu
      #LACE=0.0181429 LNLP=0.439341 LNLPD=0.457513 nC=3 ndata=42000
7934  t #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.o
      utput #LACE=0.033254 LNLP=inf LNLPD=0.109572 nC=3 ndata=126000
7935  #../home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.o
```

```
      utput #LACE=0.26877 LNLPD=0.530689 LNLPD=0.548739 nC=3 ndata=126000
7936  #(2-2) eval loss for D
7937  ################copy and paste from here for (2-2)
7938  d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole:d2sep=":"
7939  d2=../../2012/12voicedata/iconip14data:d2sep=":"
7940  d2=../../2012/12voicedata/allpole:d2sep=":"
7941  d0=../can2b; #d0=~/sotu/2015/can2b; #d0=`pwd`
7942  d1=../result-onsei_iCsiCd_saka; if [ ! -e $d1 ]; then mkdir $d1;fi
7943  SD="D";
7944  export Cth=1; #Cth=0; ## threshold for LAVE in verification using threshold
7945  SiCs4D="0";##SiCs4D="0 3 2";
7946  cd $d1;
7947  for gibbs in 1 0; do
7948  if [ $gibbs = "1" ]; then pGth=0.96; else pGth=0.80; fi; ## threshold for LAVE in verification using
      threshold
7949  foutall=PG${gibbs}Call${SD};cat /dev/null >${foutall}.output ###all
7950  ftgtall=Call${SD};cat /dev/null > ${ftgtall}.target        ###all
7951  Ctgt=$iCd:
7952  for iCd in 0 1 2 3 4 5; do ################>>
7953  fout=PG${gibbs}C${Ctgt}${SD}
7954  fgt=C${Ctgt}${SD}
7955  cat /dev/null > ${fout}.output
7956  cat /dev/null > ${fgt}.target
7957  for iCs in $SiCs4D; do        ####### for iCs in 0 0 0; do #for iconip2015 with SD="D" #############
      !!!!!!!
7958  t=15
7959  fb0=t-pG${t}${SD}
7960  fbr=resultp_iCs${iCs}iCd${iCd}C${gibbs}_${fb0}
7961  #cat ${fbr}_PPtrain.dat >> ${fout}.output
7962  cat ${fbr}_PPtest.dat >> ${fout}.output
7963  i=1;while [ $i -le 7000 ] ;do echo "${Ctgt}" >> ${fgt}.target; if [ `expr $i % 500` = "0" ] ; then
      echo -n "."; fi: i=`expr $i + 1`; done
7964  done #for iCs
7965  cat ${fout}.output >> ${foutall}.output; cat ${fgt}.target >> ${ftgtall}.target; ###all
7966  fpdg=ProbDistG${gibbs}${SD}
7967  cmd="$d0/evalloss4pG p:${fpdg}.dat t:${fgt}.target o:${fout}.output vth:$pGth:$Cth"
7968  echo -n "#$cmd ##";$cmd
7969  done #for iCd
7970  cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output vth:$pGth:$Cth"; echo -n
      "##$cmd; ##all
7971  done #for gibbs
7972  ###############copy and paste to here for (2-2)
7973  ##(2-2)result for d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole:d2sep=":" by the execut
      ables complied on sakashita's PC Cth=1
7974
7975  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C0D.target o:PG1C0D.output vth:0.96:1     ##0.007 0.014 0
      .392 0.397 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7976  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG1C1D.output vth:0.96:1     ##0.163 0.786 0
      .988 0.999 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7977  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG1C2D.output vth:0.96:1     ##0.000 0.048 0
      .164 0.180 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7978  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG1C3D.output vth:0.96:1     ##0.000 0.044 0
      .131 0.142 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7979  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG1C4D.output vth:0.96:1     ##0.000 0.102 0
      .224 0.228 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7980  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG1C5D.output vth:0.96:1     ##0.000 0.030 0
      .136 0.140 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7981  #../can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PG1CallD.output vth:0.96:1 ##0.028 0.171 0
      .339 0.348 6 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7982  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C0D.target o:PG0C0D.output vth:0.80:1     ##0.013 0.015 0
      .762 0.807 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7983  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.output vth:0.80:1     ##0.220 1.000 0
      .595 1.230 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7984  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output vth:0.80:1     ##0.597 0.773 0
      .694 1.665 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7985  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output vth:0.80:1     ##0.370 0.874 0
      .671 1.726 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7986  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output vth:0.80:1     ##0.208 0.692 0
      .826 1.188 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7987  #../can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output vth:0.80:1     ##0.001 0.004 0
      .569 0.583 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7988  #../can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output vth:0.80:1 ##0.235 0.560 0
      .686 1.200 6 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata
7989
7990  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C0D.target o:PG1C0D.output #LACE=0.007 0.014 0
      .392 0.397 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7991  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG1C1D.output #LACE=0.163 0.786 0
      .988 0.998 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7992  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG1C2D.output #LACE=0.000 0.048 0
      .164 0.178 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7993  #../can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG1C3D.output #LACE=0.000 0.044 0
      .131 0.141 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
```

```
7994 #../can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG1C4D.output vth:0.96:1              ##0.000 0.102 0
.224 0.228 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7995 #../can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG1C5D.output vth:0.96:1              ##0.000 0.030 0
.136 0.139 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7996 ##../can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PG1CallD.output vth:0.96:1 ##0.028 0.171 0
.339 0.347 6 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7997 #../can2b/evalloss4pG p:ProbDistG0D.dat t:COD.target o:PG0COD.output vth:0.80:1              ##0.013 0.015 0
.762 0.806 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7998 #../can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.output vth:0.80:1              ##0.220 1.000 0
.595 1.227 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
7999 #../can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output vth:0.80:1              ##0.597 0.773 0
.694 1.665 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200 ???
8000 #../can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output vth:0.80:1              ##0.370 0.874 0
.671 1.726 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
8001 #../can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output vth:0.80:1              ##0.208 0.692 0
.826 1.184 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
8002 #../can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output vth:0.80:1              ##0.001 0.004 0
.569 0.583 6 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
8003 ##../can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output vth:0.80:1 ##0.235 0.560 0
.686 1.199 6 42000 #LAVE,LACE,LNLP,LNLPD,nC ndata -log(PGmin=0.015)=4.200
8004
8005
8006 #20151026 modified for exclude inf?d2=.../../2012/12voicedata/allpole/allpole:d2sep=":" by the executables co
mplied on Kurogi's PC(yuka and mesasho gave same result)
8007 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:COD.target o:PG1COD.output #LACE=0.014 L
NLP=0.396 LNLPD=0.402 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8008 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG1C1D.output #LACE=0.772 L
NLP=0.961 LNLPD=0.967 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8009 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG1C2D.output #LACE=0.047 L
NLP=0.177 LNLPD=0.188 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8010 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG1C3D.output #LACE=0.053 L
NLPD=0.150 LNLPD=0.163 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8011 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG1C4D.output #LACE=0.115 L
NLP=0.247 LNLPD=0.249 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8012 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG1C5D.output #LACE=0.025 L
NLP=0.129 LNLPD=0.131 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8013 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PG1CallD.output #LACE=0.
171 LNLP=0.343 LNLPD=0.350 nC=6 ndata=42000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8014 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:COD.target o:PG0COD.output #LACE=0.
NLP=0.753 LNLPD=0.792 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8015 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.output #LACE=0.013 L
NLP=0.612 LNLPD=1.246 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8016 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output #LACE=0.988 L
NLP=0.674 LNLPD=1.669 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8017 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output #LACE=0.810 L
NLP=0.684 LNLPD=1.735 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8018 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output #LACE=0.868 L
NLP=0.833 LNLPD=1.175 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8019 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output #LACE=0.686 L
NLPD=0.561 LNLPD=0.572 nC=6 ndata=7000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8020 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output #LACE=0.5
61 LNLP=0.686 LNLPD=1.198 nC=6 ndata=42000 (LNLP,LNPD<-log(PGmin=0.015)=4.200
8021
8022
8023 ###result for gibbs=1, d2=.../../2012/12voicedata/allpole/allpole:d2sep=":" by the executables complied on sa
kashita's PC
8024 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:COD.target o:PG
1COD.output #LACE=0.0144286 LNLPD=0.392493 LNLPD=0.409651 nC=6 ndata=7000
8025 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG
1C1D.output #LACE=1 LNLP=0.595188 LNLPD=1.23937 nC=6 ndata=7000
8026 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG
1C2D.output #LACE=0.786286 LNLPD=0.987587 LNLPD=1.03476 nC=6 ndata=7000
8027 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG
1C3D.output #LACE=0.0477143 LNLPD=0.16374 LNLPD=0.194228 nC=6 ndata=7000
8028 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG
1C4D.output #LACE=0.0438571 LNLPD=0.130509 LNLPD=0.143328 nC=6 ndata=7000
8029 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG
1C5D.output #LACE=0.102429 LNLPD=0.224494 LNLPD=0.228925 nC=6 ndata=7000
8030 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:
PG1CallD.output #LACE=0.0297143 LNLPD=0.135753 LNLPD=0.14749 nC=6 ndata=42000
8031 ###result for gibbs=0, d2=.../../2012/12voicedata/allpole/allpole:d2sep=":" by the executables complied on sa
kashita's PC
8032 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:COD.target o:PG
0COD.output #LACE=0.015 LNLPD=0.170738 LNLPD=0.339096 LNLPD=0.359746 nC=6 ndata=42000
8033 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG
0C1D.output #LACE=0.015 LNLPD=0.761659 LNLPD=0.81168 nC=6 ndata=7000
8034 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG
0C2D.output #LACE=1 LNLP=0.693672 LNLPD=1.66523 nC=6 ndata=7000
8035 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG
0C3D.output #LACE=0.873857 LNLPD=0.670897 LNLPD=1.72637 nC=6 ndata=7000
8036 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG
0C4D.output #LACE=0.691714 LNLPD=0.826376 LNLPD=1.20543 nC=6 ndata=7000
```

```
8037 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG
0C5D.output #LACE=0.004 LNLPD=0.569131 LNLPD=0.596444 nC=6 ndata=7000
8038 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:
PG0CallD.output #LACE=0.559619 LNLPD=0.686154 LNLPD=1.20742 nC=6 ndata=42000
8039
8040 20151016sakashita
8041
8042 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:COD.target o:PG1COD.outpu
t #LACE=0.014 LNLP=0.396173 LNLPD=0.421024 nC=6 ndata=7000
8043 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG1C1D.outpu
t #LACE=0.772286 LNLP=0.961032 LNLPD=0.986118 nC=6 ndata=7000
8044 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG1C2D.outpu
t #LACE=0.0471429 LNLP=0.178163 LNLPD=0.222503 nC=6 ndata=7000
8045 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG1C3D.outpu
t #LACE=0.0532857 LNLP=0.148935 LNLPD=0.174225 nC=6 ndata=7000
8046 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG1C4D.outpu
t #LACE=0.114571 LNLP=0.246902 LNLPD=0.249733 nC=6 ndata=7000
8047 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG1C5D.outpu
t #LACE=0.0251429 LNLP=1.128831 LNLPD=0.132246 nC=6 ndata=7000
8048 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PG1CallD.o
utput #LACE=0.171071 LNLP=0.343339 LNLPD=0.364308 nC=6 ndata=42000
8049
8050 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:COD.target o:PG0COD.outpu
t #LACE=0.0125714 LNLP=0.75319 LNLPD=0.803889 nC=6 ndata=7000
8051 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.outpu
t #LACE=0.988429 LNLP=0.612412 LNLPD=1.25662 nC=6 ndata=7000
8052 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.outpu
t #LACE=0.810429 LNLP=0.674074 LNLPD=1.66881 nC=6 ndata=7000
8053 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.outpu
t #LACE=0.867714 LNLP=0.684469 LNLPD=1.73523 nC=6 ndata=7000
8054 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.outpu
t #LACE=0.685857 LNLP=0.832923 LNLPD=1.24381 nC=6 ndata=7000
8055 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.outpu
t #LACE=0.0031286 LNLPD=0.560798 LNLPD=0.573545 nC=6 ndata=7000
8056 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.o
utput #LACE=0.561357 LNLP=0.686311 LNLPD=1.21365 nC=6 ndata=42000
8057
8058 #(2-3) eval loss for D with the combined class new class C0,C1,...,C4 for old {C0 \cup C1}, C2, C3, C4
, C5
8059 #########copy and paste from here for (2-3)
8060 d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/allpole:d2sep=":"
8061 d2=.../../2012/12voicedata/iconip14data/d2sep=":"
8062 d2=.../../2012/12voicedata/allpole:d2sep=":"
8063 d0=.../can2b: #d0=~/sotu/2015/can2b: #d0=`pwd`
8064 d1=.../result-onsei_iCsiCd_saka: if [ ! -e $d1 ]; then mkdir $d1;fi
8065 SD="D";
8066 export Cth=0; ## threshold for LAVE in verification using threshold
8067 SiCs4D="0";#iCs4D="0 3 2";
8068 cd $d1
8069
8070 for gibbs in 1 0; do
8071   fpdg=ProbDistG${gibbs}${SD}
8072   fpdg4=ProbDistG${gibbs}${SD}4
8073   cat /dev/null > ${fpdg4}.dat
8074   cat ${fpdg}.dat |awk '{print $1,$2+$3,$4,$5,$6,$7}' >> ${fpdg4}.dat
8075   done #for gibbs
8076
8077 ######
8078 for gibbs in 1 0; do
8079   if [ $gibbs = "1" ]; then pGth=0.96; else pGth=0.80; fi; ## threshold for LAVE in verification using
threshold
8080   fpdg4=ProbDistG${gibbs}${SD}4
8081   foutall=PG${gibbs}Call${SD}4:cat /dev/null >${foutall}.output    ###all
8082   ftgtall=Call${SD}4:cat /dev/null > ${ftgtall}.target             ###all
8083   for iCd in 0 1 2 3 4 5; do ##############
8084     if [ $iCd -le 1 ] ; then iCd4=0; else iCd4=`expr $iCd - 1`; fi
8085     Ctgt=$iCd4;
8086     fout=PG${gibbs}C${Ctgt}${SD}4
8087     ftg=C${Ctgt}${SD}4
8088     if [ $iCd -ne 1 ] ; then
8089       cat /dev/null > ${fout}.output
8090       cat /dev/null > ${ftgt}.target
8091     fi
8092     for iCs in $SiCs4D; do #for iCs in $iCs4D: do #for iconip2015 with SD="D" #############!!!!!!!
8093       t=15
8094       fb0=t-pG${t}${SD}
8095       fbr=resultp_iCs${iCs}iCd${iCd}G${gibbs}_${fb0}
8096       #cat ${fbr}_PPtrain.dat >> ${fout}.output
8097       cat ${fbr}_PPtest.dat >> ${fout}.output
8098       i=1;while [ $i -le 7000 ] ;do echo "${Ctgt}" >> ${ftgt}.target; if [ `expr $i % 500` = "0" ] ; then
echo -n "."; fi; i=`expr $i + 1`; done
8099     done #for iCs
```

```
8100 cat ${foutall}.output >> ${foutall}.output ; cat ${ftgt}.target >> ${ftgtall}.target; ##all
8101 if [ $iCd -ne 0 ] ; then
8102 fpdg4=ProbdistG${gibbs}$(SD)4
8103 cmd="$d0/evalloss4pG p:${fpdg4}.dat t:${ftgt}.target o:${fout}.output vth:$pdth:$Cth"
8104 echo -n "#$cmd ##";$cmd
8105 fi
8106 done #for iCd
8107 cmd="$d0/evalloss4pG p:${fpdg4}.dat t:${ftgtall}.target o:${foutall}.output vth:$pdth:$Cth"; echo -n
"##$cmd ##";$cmd; ##all
8108 done #for gibbs
8109 cd - #for gibbs
8110 ###############copy and paste to here for (2-3)
8111 utables compiled on sakashita's PC Cth=0
8112 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:PG1C0D4.output vth:0.96:0    ##0.085  0.02
4 0.069 0.072 5 14000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8113 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:PG1C1D4.output vth:0.96:0    ##0.000  0.04
8 0.172 0.180 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata ?class with maximum p is affected?
8114 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:PG1C2D4.output vth:0.96:0    ##0.000  0.04
4 0.131 0.142 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8115 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:PG1C3D4.output vth:0.96:0    ##0.000  0.10
2 0.224 0.228 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8116 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:PG1C4D4.output vth:0.96:0    ##0.000  0.03
0 0.136 0.140 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8117 ##../can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target o:PG1CallD4.output vth:0.96:0 ##0.025  0.03
9 0.116 0.121 5 49000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8118 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:PG0C0D4.output vth:0.80:0    ##0.117  0.11
9 0.276 0.391 5 14000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8119 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:PG0C1D4.output vth:0.80:0    ##0.597  0.78
0 1.146 1.665 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata ?class with maximum p is affected?
8120 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:PG0C2D4.output vth:0.80:0    ##0.370  0.87
4 0.816 1.726 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8121 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:PG0C3D4.output vth:0.80:0    ##0.208  0.69
2 0.830 1.188 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8122 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:PG0C4D4.output vth:0.80:0    ##0.001  0.00
4 0.569 0.583 5 7000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8123 ##../can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target o:PG0CallD4.output vth:0.80:0 ##0.203  0.37
2 0.594 0.887 5 49000 #LAVE,LACE,LNLP,LNLPD,nC ndata
8124
8125
8126 #resutl for sakashita's result 20151016 = Kurogi's result
8127 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:PG1C0D4.ou
tput #LACE=0.021 LNLPD=0.0525519 LNLP=0.0640817 nC=5 ndata=14000
8128 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:PG1C1D4.ou
tput #LACE=0.0471429 LNLPD=0.186058 LNLP=0.222503 nC=5 ndata=7000
8129 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:PG1C2D4.ou
tput #LACE=0.0532857 LNLPD=0.148935 LNLP=0.174225 nC=5 ndata=7000
8130 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:PG1C3D4.ou
tput #LACE=0.114571 LNLPD=0.246902 LNLP=0.249733 nC=5 ndata=7000
8131 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:PG1C4D4.ou
tput #LACE=0.0251429 LNLPD=0.128831 LNLP=0.132246 nC=5 ndata=7000
8132 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target o:PG1CallD
4.output #LACE=0.0405714 LNLPD=0.117284 LNLP=0.130293 nC=5 ndata=49000
8133 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:PG0C0D4.ou
tput #LACE=0.102286 LNLPD=0.0594352 LNLP=0.0809558 nC=5 ndata=14000
8134 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:PG0C1D4.ou
tput #LACE=0.851286 LNLPD=1.08685 LNLP=1.66881 nC=5 ndata=7000
8135 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:PG0C2D4.ou
tput #LACE=0.869143 LNLPD=0.831476 LNLP=1.73523 nC=5 ndata=7000
8136 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:PG0C3D4.ou
tput #LACE=0.685857 LNLPD=0.834372 LNLP=1.24381 nC=5 ndata=7000
8137 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:PG0C4D4.ou
tput #LACE=0.00314286 LNLPD=0.560798 LNLP=0.573545 nC=5 ndata=7000
8138 home/kuro/Desktop/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target o:PG0CallD
4.output #LACE=0.374837 LNLPD=0.592647 LNLP=0.899382 nC=5 ndata=49000
8139
8140 ###result for gibbs=1, d2=../../2012/12voicedata/allpole:d2sep=":" by the executables complied on sa
kashita's PC
8141 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:
PG1C0D4.output #LACE=0.0471143 LNLPD=0.173193 LNLP=0.194228 nC=5 ndata=7000
8142 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:
PG1C1D4.output #LACE=0.0477143 LNLPD=0.130509 LNLP=0.143428 nC=5 ndata=7000
8143 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:
PG1C2D4.output #LACE=0.0438571 LNLPD=0.228925 LNLP=... nC=5 ndata=7000
8144 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:
PG1C3D4.output #LACE=0.102429 LNLPD=0.224494 LNLP=0.228925 nC=5 ndata=7000
8145 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:
PG1C4D4.output #LACE=0.0297143 LNLPD=0.135733 LNLP=0.14749 nC=5 ndata=7000
8146 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target
o:PG1CallD4.output #LACE=0.0389592 LNLP=0.112245 LNLPD=0.125585 nC=5 ndata=49000
8147 ###result for gibbs=0, d2=../../2012/12voicedata/allpole:d2sep=":" by the executables complied on sa
kashita's PC
```

```
8148 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:
PG0C0D4.output #LACE=0.118643 LNLPD=0.276184 LNLP=0.395793 nC=5 ndata=14000
8149 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:
PG0C1D4.output #LACE=0.779571 LNLPD=1.14565 LNLP=1.66523 nC=5 ndata=7000
8150 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:
PG0C2D4.output #LACE=0.873857 LNLP=0.816074 LNLP=1.72637 nC=5 ndata=7000
8151 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:
PG0C3D4.output #LACE=0.691714 LNLP=0.830404 LNLPD=1.20543 nC=5 ndata=7000
8152 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:
PG0C4D4.output #LACE=0.004 LNLP=0.569131 LNLPD=0.596444 nC=5 ndata=7000
8153 #/home/kuro/sotu/2015iconip/iconip_saigen/2012/can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target
o:PG0CallD4.output #LACE=0.37151 LNLPD=0.594459 LNLPD=0.892905 nC=5 ndata=49000
8154 ##################################################################################
8155 ##################################################################################
8156 #####
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8181 ###################################################
8182 20151008右干修正 <- 20151017修正 <- 20150915
8183 (0) LACE, LNLP, LNLPD を計算するプログラム evalloss4pG.c を作成。
8184 (0-1) 以下の(1),(2-1),(2-2),(2-3)は実行例を示す。
8185 (0-2) 用いたCAN2の数字。話者の学習データセットは、iconip2014で作成したもの
8186        http://kurolab.cntl.kyutech.ac.jp/sotu/2012/12voicedata/oob4s.... (下参照)
8187        だが、坂下君の卒論やICONIP2015の結果と違う。なぜ?
8188
8189 (1) 数字 and 話者 combined by kuro from the scripts by Sakashita
8190 ###############  copy and paste from here for (1)
8191 make.
8192 SD=S D''# SD=''S''; SD=''D'';
8193 tmp=./tmp ; if [ ! -e $tmp ]; then mkdir $tmp;fi
8194 tmp=../tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
8195 d1=../result-onsei_iCsiCd_saka; if [ ! -e $d1 ]; then mkdir $d1;fi
8196 #d1=../result-onsei_iCsiCd_d;
8197 #d1=../result-onsei_iCsiCd; if [ ! -e $d1 ]; then mkdir $d1;fi
8198 for gibbs in 1 0; do
8199 for SorD in $SD ; do fhg=$tmp/histG${gibbs}${SorD};cat /dev/null > $fhg.dat;done
8200 if [ ''$SD'' = ''D'' ] ; then
8201 SiCs=''0'';   #for only Correct speakers # SiCs=''0'';   #for only Correct speakers
8202 else
8203 SiCs=''0 2 3''; #for Correct, Unregistered, Incorrect
8204 fi
8205 for iCd in 0 1 2 3 4 5; do   #################>>
8206 if [ $gibbs -eq 1 ]; then
8207 pAs=0.80:pAd=0.96:T=5:TT=15:gibbs=1;   #for GEBI  pApAd:pA:pAd
8208 else
8209 pAs=0.99:pAd=0.80:T=5:TT=15:gibbs=0;   #for BI    pApAd:pA:pAd
8210 fi
8211 for iCs in $iCs; do   ### for iCs in 0 0 0: do for iconip2015 with SD-D and <<<<########## ######
!!!!
8212 cat /dev/null > resultsum.dat
8213 cat /dev/null > psdsum.dat
8214 for sX in 0 1 2 3 4 5 6; do sP=-1;
8215 test=test:5:2000:${iCs}${iCsiCd}:5:15;   #test:test->id:test->n:test->riCs:test->t_iCd:th->T
8216 ###
8217 d2=/media/sf_D_DRIVE/cdata/15iconip/15iconip/20150917takeguchi/12voicedata_sakashita/;d2sep=''_''
p=_''
8218 d2=/media/sf_D_DRIVE/cdata/15iconip/15iconip/20151005sakashita/;d2sep=''_''
8219 d2=../../2012/12voicedata/iconip14data/allpole;d2sep=''_''
8220 d2=../../2012/12voicedata/iconip14data/allpole;d2sep=''_''
```

```
8221 d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/dzsep=":"
8222 if [ "$dzsep" = ":" ] ; then #ytm:1:0.9:1000 or ytm:1:0.9:2000
8223 cmd="speakerdigit_v5 fs:${d2}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:${d2}/oob4d:-1N100mbas2:300:1.6
:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0
:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void
:0"+;$cmd > /dev/null
8224     else
8225 #for d2 for file_names with under-bar ".", not colon ":"
8226 cmd="speakerdigit_v5 fs:${d2}/oob4s.-1N40mbas2_300_1.6.1sX${sX}.y fd:${d2}/oob4d.-1N100mbas2_300_1.6
_1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0
:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void
:0"+;$cmd > /dev/null
8227     fi
8228 cat $tmp/testsd_stat.dat >> resultsum.dat
8229 echo -e "\n" >> resultsum.dat
8230 cat $tmp/psd.dat >> psdsum.dat ############# <= speakerdigit_v5.c ,pG for speaker and digits ##psd.da
t->psdsum.dat
8231     done #for sX excluded speaker
8232 ##################################### choose t=15th pG1 and pB=pG0
8233 export t=15;
8234 for SorD in $SD; do #############for SorD
8235 fhg=$tmp/histG${gibbs}${SorD};
8236 fb0=t-pG${t}${SorD}
8237 fbr=${d1}/resultp_iCs${iCs}iCd${iCd}G${gibbs}-${fb0}
8238 cat /dev/null > ${fb0}.dat
8239 #echo "#pGC,t.n.pGC,pGCd" >> ${fb0}.dat #???
8240 if [ "$SorD" = "D" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $4,$0;}}' >> $
{fb0}.dat ; fi ##psdsum.dat ->fb0 for digits
8241 if [ "$SorD" = "S" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $3,$0;}}' >> $
{fb0}.dat ; fi ##psdsum.dat ->fb0 for speakers
8242 #cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $3,$0;}}' >> ${fb0}.dat  ##psdsum.dat -
>fb0 for speakers
8243 cmd1="cp ${fb0}.dat ${fbr}.dat"
8244 echo $cmd1;$cmd1
8245 ################
8246 #check#export t=15;fb0=t-pG${t}
8247 #check#fbr=${d1c}/resultp_iCs${iCs}iCd${iCd}G${gibbs}-${fb0}
8248 cat /dev/null > ${fbr}_PPtrain.dat ##PP:Probabilistic Prediction
8249 cat /dev/null > ${fbr}_PPtest.dat
8250 for sX_ in 0 1 2 3 4 5 6; do
8251 export sX_1000=`expr $sX_ \* 2000`
8252 echo "sed -n -e \"expr ${sX_1000} + 1',`expr ${sX_1000} + 1000'p\"     ${fbr}.dat >> ${fbr}_PPtrain.d
at"
8253 sed -n -e '"`expr ${sX_1000} + 1',`expr ${sX_1000} + 1000'p"     ${fbr}.dat >> ${fbr}_PPtrain.dat
8254 echo "sed -n -e \"expr ${sX_1000} + 1001',`expr ${sX_1000} + 2000'p"     ${fbr}.dat >> ${fbr}_PPtest.d
at"
8255 sed -n -e '"`expr ${sX_1000} + 1001',`expr ${sX_1000} + 2000'p"     ${fbr}.dat >> ${fbr}_PPtest.dat
8256 PPfiles="${PPfiles} ${fbr}"
8257     done #for sX_
8258 ################histogram by moving average
8259 x0=0:ndiv=100:nmav=3
8260 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
8261 echo $cmd: $cmd
8262 fhe=${d1}/hist-iCs${iCs}iCd${iCd}G${gibbs}.eps
8263 cp $tmp/hist.eps $fhe
8264 #gv $fhe& #disp result
8265 cp $fhg.dat $tmp/histtmp.dat
8266 cat tmp/hist.dat |awk '{print $3}' > tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg.dat
##
8267 #paste $tmp/histtmp.dat tmp/hist.dat > $fhg.dat
8268 sleep 2;
8269     done # for SorD
8270 ###############
8271     done # for iCs
8272     done # for iCd
8273 ####
8274 # Probability P(c_i|p_G) for Probabilistic Prediction (fpdg=$d1/ProbDist$(gibbs)${SorD})
8275 ################
8276 for SorD in $SD; do #############for SorD
8277 fhg=$tmp/histG${gibbs}${SorD};
8278 fpdg=$d1/ProbDistG${gibbs}${SorD}
8279 cp $fhg.dat $tmp/histtmp.dat:cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat:paste $tmp/histtmp.da
t tmp/hist1.dat.> $fhg.dat ; $fhg.dat ##
8280 cat /dev/null > $fpdg.dat
8281 ###
8282 if [ "$SorD" = "D" ]; then #for 3=number of iCs candidates
8283 if [ "$SiCs" = "0" ]; then
8284 cat $fhg.dat|awk '{p0sum=$1;p1sum=$2;p2sum=$3;p3sum=$4;p4sum=$5;p5sum=$6;p0sum+p1sum+p2sum+p3su
m+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$7, p0sum/psum,p1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5s
um/psum);}' >> $fpdg.dat
8285     else
8286 cat $fhg.dat|awk '{p0sum=$1+$2+$3:p1sum=$4+$5+$6;p2sum=$7+$8+$9:p3sum=$10+$11+$12:p4sum=$13+$14+$15;
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p5sum=$16+$17+$18;p5sum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$19, p0sum/psum,p
1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum)}' >> $fpdg.dat
8287     fi
8288     else
8289 cat $fhg.dat|awk '{p0sum=$1+$4+$7+$10+$13+$16;p1sum=$2+$5+$8+$11+$14+$17;p2sum=$3+$6+$9+$12+$15+$18;
psum=p0sum+p1sum+p2sum;printf("%e %e %e\n",$19, p0sum/psum,p1sum/psum,p2sum/psum)}' >> $fpdg.dat
8290     fi
8291 ##############
8292 if [ "$SorD" = "D" ]; then
8293 gnuplot <<EOF
8294 set yrange [0:1.3]: set style data boxes; #set style data histeps
8295 set style fill solid border lc rgb "black"
8296 set term tgif;set output "$fpdg.obj";
8297 plot "$fpdg.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+\$5+\
$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$6+\$7
) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "0/5"
8298 set term postscript;set output "$fpdg.eps";replot
8299 quit
8300 EOF
8301     else
8302 gnuplot <<EOF
8303 set yrange [0:1.3]: set style data boxes; #set style data histeps
8304 set style fill solid border lc rgb "black"
8305 set term tgif;set output "$fpdg.obj";
8306 plot "$fpdg.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker", "" using 1:(\$3) lc rg
b "yellow" t "Unregistered Speaker", "" using 1:(\$3) lc rgb "red" t "Incorrect Speaker"
8307 set term postscript;set output "$fpdg.eps";replot
8308 quit
8309 EOF
8310     fi
8311 cmd="gv $fpdg.eps"; echo "Exec $cmd."; $cmd&
8312     done # for SorD
8313 ###########
8314     done #for gibbs
8315 ############### copy and paste to here for (1)
8316 ############
8317 ###############
8318 #############
8319 ###############
8320 #(2)evalloss
8321 ############
8322 #iCs=0:iCd=0: # test correct (registered) speaker
8323 #iCs=1:iCd=0: # test incorrect registered and unregistered sX
8324 #iCs=2:iCd=0: # test incorrect registered
8325 #iCs=3:iCd=0: # test (incorrect) unregistered sX
8326 for iCs in 0 2 3; do
8327 ########copy and paste from here for (2-1)
8328 d0=~/sotu/2015/can2b
8329 d1=~/sotu/2015/result-onsei_iCsiCd_saka
8330 cd $d1;
8331 SD="S";# SD="D";SD="S D";#
8332 for gibbs in 1 0; do
8333 for SorD in $SD ; do #for SorD in S D ; do
8334 foutall=P0${gibbs}Call${SorD};cat /dev/null >${foutall}.output ##all
8335 ftgtall=Call${SorD};cat /dev/null > ${ftgtall}.target       ##all
8336 for iCs in 0 2 3; do
8337 if [ $iCs = "0" ] ; then Ctgt=0; fi
8338 if [ $iCs = "2" ] ; then Ctgt=1; fi #Ctgt=2?
8339 if [ $iCs = "3" ] ; then Ctgt=2; fi #Ctgt=1?
8340 fout=PG${gibbs}C${Ctgt}${SorD}
8341 ftgt=C${Ctgt}${SorD}
8342 cat /dev/null > ${fout}.output
8343 cat /dev/null > ${ftgt}.target
8344 for iCd in 0 1 2 3 4 5; do ################>>
8345 t=15
8346 fb0=t-pG${t}${SorD}
8347 fbr=resultp_iCs${iCs}iCd${iCd}G${gibbs}_${fb0}
8348 #cat ${fbr}_PPtrain.dat >> ${fout}.output
8349 cat ${fbr}_PPtest.dat >> ${fout}.output
8350 i=1;while [ $i -le 7000 ] ;do echo -n "${Ctgt}" >> ${ftgt}.target; if [ `expr $i % 500` = "0" ] ; then
echo -n "."; fi; i=`expr $i + 1`; done
8351     done #for iCd
8352 cat ${fout}.output >> ${foutall}.output; cat ${ftgt}.target >> ${ftgtall}.target; ##all
8353 fpdg=ProbDistG${gibbs}${SorD}
8354 cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output"
8355 echo -n "$cmd ";$cmd
8356     done #for iCs
8357 cmd="$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${foutall}.output"; echo -n "$cmd ";$cmd:
##all
8358     done # for SorD
8359     done #for gibbs
8360 ##########copy and paste to here for (2-1)
```

```
8361 ##result for gibbs=1, d2=../../2012/12voicedata/iconip14data/;d2sep=":"
905 LNLP=0.00820782 LNLPD=0.0110817 nC=3 ndata=42000
8362 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PGlC0S.output #LACE=0.00311 ...............................#/home/kuro/sotu
982 nC=3 ndata=42000
8363 ...............................................#/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C1S.target o:PGlC1S.output #LACE=0.0250476 LNLP=inf LNLPD=0.0966
8364 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C2S.target o:PGlC2S.output #LACE=0.0715952 LNLP=0.220935 LNLPD=0    #/home/kuro/sotu
.220935 nC=3 ndata=42000
8365                                                          #/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:CallS.target o:PGlCallS.output #LACE=0.033254 LNLP=inf LNLPD=0.1
09572 nC=3 ndata=126000
8366 ...............................#/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PG0C0S.output #LACE=0.0260714 LNLP=0.13552 LNLPD=0.
165152 nC=3 ndata=42000
8367 ...............................#/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C1S.target o:PGlC1S.output #LACE=0.0181429 LNLP=0.439341 LNLPD=0
.457513 nC=3 ndata=42000
8368 ...............................#/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C2S.target o:PG0C2S.output #LACE=0.762095 LNLP=1.0172 LNLPD=1.02
355 nC=3 ndata=42000
8369                                                          #/home/kuro/sotu
/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.output #LACE=0.2
6877 LNLP=0.530689 LNLPD=0.548739 nC=3 ndata=126000
8370 ...
8371 ##result for gibbs=1, d2=../../2012/12voicedata/iconip14data/;d2sep=":"
762 LNLP=0.00904049 LNLPD=0.00919557 nC=3 ndata=42000
8372 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C0S.target o:PGlC0S.output #LACE=0.00354
71 LNLP=0.0830699 LNLPD=0.0831934 nC=3 ndata=42000
8373 ...............................#/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C1S.target o:PGlC1S.output #LACE=0.02835
8374 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:C2S.target o:PGlC2S.output #LACE=0.05204
76 LNLP=0.17383 LNLPD=0.17383 nC=3 ndata=42000
8375 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1S.dat t:CallS.target o:PGlCallS.output #LACE=0.0
279841 LNLP=0.0886467 LNLPD=0.0887396 nC=3 ndata=126000
8376 ##result for gibbs=0, d2=../../2012/12voicedata/iconip14data/;d2sep=":"
9 LNLP=0.119712 LNLPD=0.152185 nC=3 ndata=42000
8377 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C0S.target o:PG0C0S.output #LACE=0.02711
48 LNLP=0.474746 LNLPD=0.490167 nC=3 ndata=42000
8378 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C1S.target o:PG0C1S.output #LACE=0.01790
6 LNLP=0.960213 LNLPD=0.968203 nC=3 ndata=42000
8379 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:C2S.target o:PG0C2S.output #LACE=0.75847
67833 LNLP=0.518224 LNLPD=0.536852 nC=3 ndata=126000
8380 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0S.dat t:CallS.target o:PG0CallS.output #LACE=0.2
8381 !!!!
8382 #(2-2) eval loss for D
8383 ###########copy and paste from here for (2-2)
8384 d0=~/sotu/2015/can2b
8385 dl=~/sotu/2015/result-onsei_iCsiCd_saka
8386 SD="D"; #SD="S D"; # SD="S";
8387 cd $dl;
8388 for gibbs in 1 0: do
8389   for SorD in $SD ; do #for SorD in S D ; do
8390     foutall=PG${gibbs}Call${SorD};cat /dev/null >${foutall}.output ###all
8391     fgtgtall=Call${SorD};cat /dev/null > ${ftgtall}.target       ###all
8392     for iCd in 0 1 2 3 4 5; do ###############>>
8393       Cgt=$iCd;
8394       fout=PG${gibbs}C${Cgt}${SorD}
8395       fgtgt=C${Cgt}${SorD}
8396       cat /dev/null > ${fout}.output
8397       cat /dev/null > ${fgt}.target
8398       for iCs in 0 2 3: do ############## for iCs in 0 0 0: do #for iCs in 0 0 0 with SD="D" ################!!
8399         t=15
8400         fb0=t-pG${t}${SorD}
8401         fbr=result_iCs${iCs}iCd${iCd}G${gibbs}_${fb0}
8402         cat ${fbr}_PPtrain.dat >> ${fout}.output
8403         cat ${fbr}_PPtest.dat >> ${fout}.output
8404         i-l;while [ $i -le 7000 ] ;do echo "${ctgt}" >> ${ftgt}.target; if [ `expr $i % 500` = "0" ] ; then
echo -n "."; fi; i=`expr $i + 1`; done
8405       done #for iCs
8406       cat ${fout}.output >> ${foutall}.output; cat ${ctgt}.target >> ${ftgtall}.target; ##all
8407       fpdg=ProbDist$G${gibbs}${SorD}
8408       cmd=~$d0/evalloss4pG p:${fpdg}.dat t:${ftgt}.target o:${fout}.output"
8409       echo -n "#$cmd ";$cmd
8410     done #for iCd
8411     cmd=~$d0/evalloss4pG p:${fpdg}.dat t:${ftgtall}.target o:${ftgtall}.output"; echo -n "#$cmd ";$cmd
8412   done #for SorD
8413 done #for gibbs
8414 ###########copy and paste to here for (2-2)
8415 ### result for gibbs=0 d2=../../2012/12voicedata/iconip14data/;d2sep=":"
86 LNLP=0.487104 LNLPD=0.505565 nC=6 ndata=21000
8416 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C0D.target o:PGlC0D.output #LACE=0.01542
```

```
8417 ##result for gibbs=1, d2=../../2012/12voicedata/iconip14data/;d2sep=":"
6 LNLP=0.996135 LNLPD=0.10199 nC=6 ndata=21000
8418 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PGlC1D.output #LACE=0.04709
52 LNLP=0.187211 LNLPD=0.207524 nC=6 ndata=21000
8419 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PGlC2D.output #LACE=0.02890
48 LNLP=0.0986392 LNLPD=0.115061 nC=6 ndata=21000
8420 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PGlC3D.output #LACE=0.204 L
NLP=0.289884 LNLPD=0.296209 nC=6 ndata=21000
8421 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PGlC4D.output #LACE=0.00138
095 LNLP=0.228384 LNLPD=0.230516 nC=6 ndata=21000
8422 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PGlC5D.output #LACE=0.2
04889 LNLP=0.381226 LNLPD=0.394478 nC=6 ndata=126000
8423 ### result for gibbs=0 d2=../../2012/12voicedata/iconip14data/;d2sep=":"
8424 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C0D.target o:PG0C0D.output #LACE=0.02038
1 LNLP=0.86988 LNLPD=0.938217 nC=6 ndata=21000
8425 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C1D.target o:PG0C1D.output #LACE=0.99123
8 LNLP=0.517706 LNLPD=1.35167 nC=6 ndata=21000
8426 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C2D.target o:PG0C2D.output #LACE=0.71142
9 LNLP=0.724804 LNLPD=1.72339 nC=6 ndata=21000
8427 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C3D.target o:PG0C3D.output #LACE=0.98742
9 LNLP=0.613224 LNLPD=1.87119 nC=6 ndata=21000
8428 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C4D.target o:PG0C4D.output #LACE=0.87681
LNLP=0.695465 LNLPD=1.55115 nC=6 ndata=21000
8429 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C5D.target o:PG0C5D.output #LACE=0.00880
952 LNLP=0.600125 LNLPD=0.634509 nC=6 ndata=21000
8430 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:CallD.target o:PG0CallD.output #LACE=0.5
99349 LNLP=0.670201 LNLPD=1.34502 nC=6 ndata=126000
8431
8432 #### result for gibbs=1 d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep=" _" #### result
for "for iCs in 0 0 0: do" <### same as result of Fig3 in iconip2015
8433 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C0D.target o:PG0C0D.output #LACE=0.015 L
NLP=0.396237 LNLPD=0.411218 nC=6 ndata=21000
8434 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG0C1D.output #LACE=0.79957
1 LNLP=0.995418 LNLPD=1.0096 nC=6 ndata=21000
8435 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG0C2D.output #LACE=0.05142
86 LNLP=0.192005 LNLPD=0.219791 nC=6 ndata=21000
8436 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG0C3D.output #LACE=0.05814
29 LNLP=0.16212 LNLPD=0.180976 nC=6 ndata=21000
8437 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG0C4D.output #LACE=0.12871
4 LNLP=0.27072 LNLPD=0.272206 nC=6 ndata=21000
8438 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG0C5D.output #LACE=0.023 L
NLP=0.108757 LNLPD=0.111188 nC=6 ndata=21000
8439 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PGlCallD.output #LACE=0.1
7931 LNLP=0.354209 LNLPD=0.367496 nC=6 ndata=126000
8440 #### result for gibbs=0 d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/;d2sep=" _" #### result
for "for iCs in 0 0 0: do" <### same as result of Fig3 in iconip2015
8441 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C0D.target o:PG0C0D.output #LACE=0.01528
57 LNLP=0.74212 LNLPD=0.792684 nC=6 ndata=21000
8442 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.output #LACE=0.98614
3 LNLP=0.618302 LNLPD=1.25343 nC=6 ndata=21000
8443 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output #LACE=0.81785
7 LNLP=0.680088 LNLPD=1.68285 nC=6 ndata=21000
8444 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output #LACE=0.89142
9 LNLP=0.676354 LNLPD=1.7526 nC=6 ndata=21000
8445 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output #LACE=0.67571
4 LNLP=0.861829 LNLPD=1.19678 nC=6 ndata=21000
8446 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output #LACE=0.003 L
NLP=0.544394 LNLPD=0.558326 nC=6 ndata=21000
8447 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output #LACE=0.5
64905 LNLP=0.687181 LNLPD=1.20611 nC=6 ndata=126000
8448
8449 #### same as above
0: do" same as above
8450 ../../2012/12voicedata/allpole/;d2sep=":" #### result for "for iCs in 0 0
LNLP=0.396237 LNLPD=0.411218 nC=6 ndata=21000
8451 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PGlC1D.output #LACE=0.79957
1 LNLP=0.995418 LNLPD=1.0096 nC=6 ndata=21000
8452 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PGlC2D.output #LACE=0.05142
86 LNLP=0.192005 LNLPD=0.219791 nC=6 ndata=21000
8453 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PGlC3D.output #LACE=0.05814
29 LNLP=0.16212 LNLPD=0.180976 nC=6 ndata=21000
8454 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PGlC4D.output #LACE=0.12871
4 LNLP=0.27072 LNLPD=0.272206 nC=6 ndata=21000
8455 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PGlC5D.output #LACE=0.023 L
NLP=0.108757 LNLPD=0.111188 nC=6 ndata=21000
8456 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PGlCallD.output #LACE=0.1
7931 LNLP=0.354209 LNLPD=0.367496 nC=6 ndata=126000
8457 ### result for "for iCs in 0 0
0: do"
8458 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C0D.target o:PGlC0D.output #LACE=0.01528
57 LNLP=0.74212 LNLPD=0.792684 nC=6 ndata=21000
8459 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistGOD.dat t:C1D.target o:PGlC1D.output #LACE=0.98614
```

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3 LNLP=0.618302 LNLPD=1.25343 nC=6 ndata=21000
8460 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output #LACE=0.81785
7 LNLP=0.680088 LNLPD=1.68285 nC=6 ndata=21000
8461 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output #LACE=0.89142
9 LNLP=0.676354 LNLPD=1.7526 nC=6 ndata=21000
8462 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output #LACE=0.67571
4 LNLP=0.861829 LNLPD=1.19678 nC=6 ndata=21000
8463 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output #LACE=0.003 L
NLP=0.544394 LNLPD=0.558326 nC=6 ndata=21000
8464 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output #LACE=0.5
64905 LNLP=0.687181 LNLPD=1.20611 nC=6 ndata=126000
8465
8466 #### result for gibbs=1 d2=../../2012/12voicedata/iconip14data/d2sep=":" ### result for "for iCs in
0 0 0: do"
8467 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C0D.target o:PG1C0D.output #LACE=0.01271
43 LNLP=0.483913 LNLPD=0.503335 nC=6 ndata=21000
8468 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C1D.target o:PG1C1D.output #LACE=0.92814
3 LNLP=0.985175 LNLPD=1.00412 nC=6 ndata=21000
8469 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C2D.target o:PG1C2D.output #LACE=0.049 L
NLP=0.179564 LNLPD=0.203926 nC=6 ndata=21000
8470 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C3D.target o:PG1C3D.output #LACE=0.03114
29 LNLP=0.099884 LNLPD=0.117334 nC=6 ndata=21000
8471 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C4D.target o:PG1C4D.output #LACE=0.204 L
NLP=0.292467 LNLPD=0.302644 nC=6 ndata=21000
8472 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:C5D.target o:PG1C5D.output #LACE=0.00071
4286 LNLP=0.227756 LNLPD=0.228644 nC=6 ndata=21000
8473 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D.dat t:CallD.target o:PG1CallD.output #LACE=0.2
04286 LNLP=0.378127 LNLPD=0.393332 nC=6 ndata=126000
8474 #### result for gibbs=0 d2=../../2012/12voicedata/iconip14data/d2sep=":" #### result for "for iCs in
0 0 0: do"
8475 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C0D.target o:PG0C0D.output #LACE=0.01685
71 LNLP=0.865077 LNLPD=0.932841 nC=6 ndata=21000
8476 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C1D.target o:PG0C1D.output #LACE=0.992 L
NLP=0.518033 LNLPD=1.34533 nC=6 ndata=21000
8477 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C2D.target o:PG0C2D.output #LACE=0.73 LN
LP=0.713465 LNLPD=0.72322 nC=6 ndata=21000
8478 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C3D.target o:PG0C3D.output #LACE=0.96142
9 LNLP=0.637666 LNLPD=1.86358 nC=6 ndata=21000
8479 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C4D.target o:PG0C4D.output #LACE=0.87757
1 LNLP=0.700784 LNLPD=1.55488 nC=6 ndata=21000
8480 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:C5D.target o:PG0C5D.output #LACE=0.00728
571 LNLP=0.592511 LNLPD=0.619936 nC=6 ndata=21000
8481 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D.dat t:CallD.target o:PG0CallD.output #LACE=0.5
97524 LNLP=0.671256 LNLPD=1.33996 nC=6 ndata=126000
8482
8483
8484 #(2-3) eval loss for D with the combied class new class C0,C1,...C4 for old {C0 \cup C1}, C2, C3, C4
, C5
8485 ##########copy and paste from here for (2-3)
8486 d0=~/sotu/2015/can2b
8487 d1=~/sotu/2015/result-onsei_iCsiCd_saka
8488 cd $d1;
8489 SD="D"; #SD="S D";# SD="S";
8490 for gibbs in 1 0; do
8491 fpdg=ProbDistG$(gibbs)$(SorD)
8492 fpdg4=ProbDistG$(gibbs)$(SorD)4
8493 cat /dev/null > $(fpdg4).dat
8494 cat $(fpdg).dat |awk '{print $1,$2+$3,$4,$5,$6,$7}' >> $(fpdg4).dat
8495 ftgtall=Call$(SorD)4;cat /dev/null > $(ftgtall).target                ###all
8496 done #for SorD
8497 done #for gibbs
8498 #######
8499 for gibbs in 1 0; do
8500 for SorD in $SD ; do #for SorD in S D ; do
8501 foutall=PG$(gibbs)Call$(SorD)4;cat /dev/null >$(foutall).output ###all
8502 ftgtall=Call$(SorD)4;cat /dev/null > $(ftgtall).target             ###all
8503 for iCd in 0 1 2 3 4 5; do ################>>
8504 if [ $iCd -le 1 ] ; then iCd4=0; else iCd4=`expr $iCd - 1`; fi
8505 Ctgt=$iCd4;
8506 fout=PG$(gibbs)C$(Ctgt)$(SorD)4
8507 ftgt=C$(Ctgt)$(SorD)4
8508 if [ $iCd -ne 1 ] ; then
8509 cat /dev/null > $(fout).output
8510 cat /dev/null > $(ftgt).target
8511 fi
8512 ##### for iCs in 0 0 0; do #for iconip2015 with SD="D" ################!!!!!!
8513 t=15
8514 fb0=t-p0$(t)$(SorD)
8515 fbr=result_iCs$(iCs)iCd$(iCd)G$(gibbs)_$(fb0)
8516 cat $(fbr)_PPtrain.dat >> $(fout).output
8517 cat $(fbr)_PPtest.dat >> $(ftgt).target
8518 i-l;while [ $i -le 7000 ];do echo "$(ctgt)" >> $(ftgt).target; if [ `expr $i % 500` = "0" ] ; then
```

```
echo -n "."; fi; i=`expr $i + 1`; done
8519 #
8520 done #for iCs
8521 cat $(fout).output >> $(foutall).output; cat $(ftgt).target >> $(ftgtall).target; ###all
8522 if [ $iCd -ne 0 ] ; then
8523 fpdg4=ProbDistG$(gibbs)$(SorD)4
8524 cmd="$d0/evalloss4pG p:$(fpdg4).dat t:$(ftgt).target o:$(fout).output"
8525 echo -n "#$cmd ";$cmd
8526 fi
8527 done #for iCd
8528 cmd="$d0/evalloss4pG p:$(fpdg4).dat t:$(ftgtall).target o:$(foutall).output"; echo -n "#$cmd ";$cmd
##all
8529 done #for SorD
8530 done #for gibbs
8531 ############copy and paste to here for (2-3)
8532 #result for gibbs=1 d2=../../2012/12voicedata/iconip14data/d2sep=":"
8533 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:PG1C0D4.output #LACE=0.02
50952 LNLP=0.063238 LNLPD=0.0676447 nC=5 ndata=42000
8534 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:PG1C1D4.output #LACE=0.04
70952 LNLP=0.201527 LNLPD=0.207524 nC=5 ndata=21000
8535 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:PG1C2D4.output #LACE=0.02
89048 LNLP=0.0986392 LNLPD=0.115061 nC=5 ndata=21000
8536 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:PG1C3D4.output #LACE=0.20
4 LNLP=0.289884 LNLPD=0.296209 nC=5 ndata=21000
8537 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:PG1C4D4.output #LACE=0.00
138095 LNLP=0.228384 LNLPD=0.230516 nC=5 ndata=21000
8538 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target o:PG1CallD4.output #LACE=
0.0482109 LNLP=0.1371 LNLPD=0.142893 nC=5 ndata=147000
8539 #result for gibbs=0 d2=../../2012/12voicedata/iconip14data/d2sep=":"
8540 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:PG0C0D4.output #LACE=0.10
8976 LNLP=0.391038 LNLPD=0.508928 nC=5 ndata=42000
8541 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:PG0C1D4.output #LACE=0.73
6762 LNLP=1.05606 LNLPD=1.72339 nC=5 ndata=21000
8542 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:PG0C2D4.output #LACE=0.98
7429 LNLP=0.817889 LNLPD=1.87119 nC=5 ndata=21000
8543 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:PG0C3D4.output #LACE=0.87
681 LNLP=0.78953 LNLPD=1.55115 nC=5 ndata=21000
8544 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:PG0C4D4.output #LACE=0.00
880952 LNLP=0.60068 LNLPD=0.634509 nC=5 ndata=21000
8545 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target o:PG0CallD4.output #LACE=
0.40598 LNLP=0.632364 LNLPD=1.02852 nC=5 ndata=147000
8546
8547 ### result for gibbs=1 d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/:/d2sep=":" ### result
for "for iCs in 0 0 0; do" <### same as result of Fig3 in iconip2015
8548 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:PG1C0D4.output #LACE=0.02
17857 LNLP=0.0550923 LNLPD=0.0611775 nC=5 ndata=42000
8549 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:PG1C1D4.output #LACE=0.05
14286 LNLP=0.200484 LNLPD=0.219791 nC=5 ndata=21000
8550 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:PG1C2D4.output #LACE=0.05
81429 LNLP=0.16212 LNLPD=0.180976 nC=5 ndata=21000
8551 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:PG1C3D4.output #LACE=0.12
8714 LNLP=0.27072 LNLPD=0.272206 nC=5 ndata=21000
8552 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:PG1C4D4.output #LACE=0.02
3 LNLP=0.108757 LNLPD=0.111188 nC=5 ndata=21000
8553 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target o:PG1CallD4.output #LACE=
0.043898 LNLP=0.122701 LNLPD=0.130521 nC=5 ndata=147000
8554 ### result for gibbs=1 d2=/media/sf_D_DRIVE/cdata/15iconip/20151005sakashita/:/d2sep=":" ### result
for "for iCs in 0 0 0; do" <### same as result of Fig3 in iconip2015
8555 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:PG0C0D4.output #LACE=0.85
54286 LNLP=0.289083 LNLPD=0.393362 nC=5 ndata=42000
8556 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:PG0C1D4.output #LACE=0.89
7286 LNLP=1.0923 LNLPD=1.68285 nC=5 ndata=21000
8557 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:PG0C2D4.output #LACE=0.67
1429 LNLP=0.824134 LNLPD=1.7526 nC=5 ndata=21000
8558 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:PG0C3D4.output #LACE=0.67
5714 LNLP=0.864123 LNLPD=1.19678 nC=5 ndata=42000
8559 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:PG0C4D4.output #LACE=0.00
9 LNLP=0.193214 LNLPD=0.203926 nC=5 ndata=21000
8560 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target o:PG0CallD4.output #LACE=
0.375429 LNLP=0.593527 LNLPD=0.891944 nC=5 ndata=147000
8561
8562
8563 #result for gibbs=1 d2=../../2012/12voicedata/iconip14data/d2sep=":" #### result for "for iCs in 0 0
0: do"
8564 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C0D4.target o:PG1C0D4.output #LACE=0.02
32143 LNLP=0.0580005 LNLPD=0.0644127 nC=5 ndata=42000
8565 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C1D4.target o:PG1C1D4.output #LACE=0.04
9 LNLP=0.193214 LNLPD=0.203926 nC=5 ndata=21000
8566 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C2D4.target o:PG1C2D4.output #LACE=0.03
11429 LNLP=0.0998847 LNLPD=0.117324 nC=5 ndata=21000
8567 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C3D4.target o:PG1C3D4.output #LACE=0.20
4 LNLP=0.292467 LNLPD=0.302644 nC=5 ndata=21000
```

```
8568 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:C4D4.target o:PG1C4D4.output #LACE=0.00
0714286 LNLP=0.227756 LNLPD=0.228644 nC=5 ndata=21000
8569 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG1D4.dat t:CallD4.target o:PG1CallD4.output #LACE=
0.048102 LNLP=0.134785 LNLPD=0.142385 nC=5 ndata=147000
8570 #result for gibbs=0 d2=../../2012/12voicedata/iconip14data/d2sep=":" ### result for "for iCs in 0 0
0; do"
8571 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C0D4.target o:PG0C0D4.output #LACE=0.10
0429 LNLP=0.392616 LNLPD=0.501917 nC=5 ndata=42000
8572 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C1D4.target o:PG0C1D4.output #LACE=0.77
5143 LNLP=1.0349 LNLPD=1.72322 nC=5 ndata=21000
8573 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C2D4.target o:PG0C2D4.output #LACE=0.96
1429 LNLP=0.838984 LNLPD=1.86358 nC=5 ndata=21000
8574 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C3D4.target o:PG0C3D4.output #LACE=0.87
7571 LNLP=0.793607 LNLPD=1.55488 nC=5 ndata=21000
8575 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:C4D4.target o:PG0C4D4.output #LACE=0.00
728571 LNLP=0.592843 LNLPD=0.619936 nC=5 ndata=21000
8576 #/home/kuro/sotu/2015/can2b/evalloss4pG p:ProbDistG0D4.dat t:CallD4.target o:PG0CallD4.output #LACE=
0.404673 LNLP=0.631888 LNLPD=1.02259 nC=5 ndata=147000
8577 ########################################################################
8578 #############for confirmation 20151008 below sakashita
8579 #2015/10/08
8580 #############################
8581 (1) 原因判別 : iconip2015 の良い結果は、iCs=0 としていたから！！！
8582 これは、話者照合が成功したときだけ数字識別を行うときに有効
8583 #############################
8584 #############################
8585 ##### cut and pase from here
8586 make
8587 tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
8588 d1=../result-onsei_iCsiCd_d; if [ ! -e $d1 ]; then mkdir $d1;fi
8589 d1=../result-onsei_iCsiCd_saka;
8590 for gibbs in 1 0; do
8591 fhg=$tmp/hist$G${gibbs}.dat
8592 cat /dev/null > $fhg
8593 for iCd in 0 1 2 3 4 5; do
8594 #############try identification
8595 if [ $gibbs -eq 1 ]; then
8596 pAs=0.80;pAd=0.96;T=5;TT=15;gibbs=1;      #for GEBI pApAd:pA:pAd
8597 else
8598 pAs=0.99;pAd=0.80;T=5;TT=15;gibbs=0;      #for BI  pApAd:pA:pAd
8599 fi
8600 for sX in 0 1 2 3 4 5 6; do sP=-1;
8601 iCs=0; ### result of this line is submitted for iconip2015 <<== 原因はこれ！
8602 cat /dev/null > resultsum.dat
8603 cat /dev/null > psdsum.dat
8604 d2=../../2012/12voicedata/iconip14data
8605 d2=../../2012/12voicedata/allpole
8606 d2=~/sotu/2015iconip/iconip_saigen/2012/12voicedata/allpole/d2sep=":"
8607 for sX in 0 1 2 3 4 5 6; do sP=-1;
8608 test=test:5:2000:${iCs}:${iCd}:5:15:  #test:test->id:test->n:test->riCs:test->t_iCd:th->T
8609 cmd="speakerdigit_v5 fs=${d2}/oob4s:-1N40mbas2:300:1.6:isX${sX}.y fd:${d2}/oob4d:-1N100mbas2:300:1.6
:isX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:2000 gibbs:$gibbs beta:1 sdP:0:0i:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0
:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 test:5:2000:${iCs}:${iCd}:5:15:$T sX:$sX sP:$sP void
:0";$cmd > /dev/null
8610 cat $tmp/testsd_stat.dat >> resultsum.dat
8611 echo -e "\n" >> resultsum.dat
8612 cat $tmp/psd.dat >> psdsum.dat ############# <== speakerdigit_v5.c
8613 done
8614 ############################# choose t=15th pG1 and pB=pG0
8615 export t=15;fb0=c-pG${t};
8616 fbr=${d1}/resultp_iCs}iCd${iCd}G${gibbs}-${fb0}
8617 cat /dev/null > ${fb0}.dat
8618 ##echo "pGC,t.n,pGC,pGCd" >> ${fb0}.dat
8619 cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if(($1==t)){print $4,$0;}}' >> ${fb0}.dat
8620 cmd1="cp ${fb0}.dat ${fbr}.dat"
8621 echo $cmd1;$cmd1
8622 cat /dev/null > ${fbr}_head.dat
8623 #head -n 3500 ${fbr}.dat > ${fbr}_head.dat
8624 cat /dev/null > ${fbr}_tail.dat
8625 #tail -n 3500 ${fbr}.dat >> ${fbr}_tail.dat
8626 sed -n '1,1000p' ${fbr}.dat > ${fbr}_head.dat
8627 sed -n '1001,2000p' ${fbr}.dat >> ${fbr}_tail.dat
8628 sed -n '2001,3000p' ${fbr}.dat >> ${fbr}_head.dat
8629 sed -n '3001,4000p' ${fbr}.dat>> ${fbr}_tail.dat
8630 sed -n '4001,5000p' ${fbr}.dat>> ${fbr}_head.dat
8631 sed -n '5001,6000p' ${fbr}.dat>> ${fbr}_tail.dat
8632 sed -n '6001,7000p' ${fbr}.dat>> ${fbr}_head.dat
8633 sed -n '7001,8000p' ${fbr}.dat>> ${fbr}_tail.dat
8634 sed -n '8001,9000p' ${fbr}.dat >> ${fbr}_head.dat
8635 sed -n '9001,10000p' ${fbr}.dat >> ${fbr}_tail.dat
8636 sed -n '10001,11000p' ${fbr}.dat >> ${fbr}_head.dat
```

```
8637 #sed -n '11001,12000p' ${fbr}.dat>> ${fbr}_tail.dat
8638 #sed -n '12001,13000p' ${fbr}.dat>> ${fbr}_head.dat
8639 #sed -n '13001,14000p' ${fbr}.dat>> ${fbr}_tail.dat
8640 #echo $cmd1;$cmd1
8641 ###############################################r=####
8642 x0=0:ndiv=100:nmav=3
8643 cmd="histmav1-onsei $x0 $ndiv $hmav ${fbr}_head.dat"
8644 echo $cmd; $cmd
8645 fhe=${d1}/hist-iCs${iCs}iCd${iCd}G${gibbs}.eps
8646 cp $tmp/hist.eps $fhe
8647 #gv $fhe&
8648 cp $fhg $tmp/histtmp.dat
8649 paste $tmp/histtmp.dat tmp/hist.dat  > $fhg
8650 sleep 2;
8651 #done
8652 #done
8653 fpdg=$d1/ProbDistG${gibbs}.dat
8654 cat /dev/null > $fpdg
8655 #cat $fhg|awk '{psum=$3+$7+$11+$15+$19+$23+$27+$31+$35+$39+$43+$47+$51+$55+$59+$63+$67+$71+1e-20:p0s
um=$3+$7+$11;p1sum=$15+$23+$31;p2sum=$27+$31+$35;p3sum=$39+$43+$47;p4sum=$51+$55+$59;p5sum=$63+$67+$71;print
f("%e %e %e %e %e \n", $1, p0sum/psum, p1sum/psum, p2sum/psum, p3sum/psum, p4sum/psum, p5sum/psum);}' >>
$fpdg
8656 cat $fhg|awk '{psum=$3+$7+$11+$15+$19+$23+1e-20;printf("%e %e %e %e %e \n", $1, $1, $3/psum, $7/ps
um, $11/psum, $15/psum, $19/psum, $23/psum);}'>> $fpdg
8657 done # for gibbs
8658 cd $d1
8659 gnuplot <<EOF
8660 set yrange [0:1.3]
8661 set style data histeps
8662 set style data boxes; #set style data histeps
8663 set style fill solid border lc rgb "black"
8664 set term tgif;set output "ProbDistG1.obj";
8665 plot "ProbDistG1.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5","" using 1:(\$3+\$4+\
$5+\$6+\$7) lc rgb "blue" t "4/5","" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5","" using 1:(\$5+\$6
+\$7) lc rgb "red" t "2/5","" using 1:(\$6+\$7) lc rgb "green" t "1/5","" using 1:(\$7) lc rgb "pink" t "0/5
8666 set term postscript;set output "ProbDistG1.eps";replot
8667 set style data boxes; #set style data histeps
8668 set style fill solid border lc rgb "black"
8669 set term tgif;set output "ProbDistG0.obj"
8670 plot "ProbDistG0.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5","" using 1:(\$3+\$4+\
$5+\$6+\$7) lc rgb "blue" t "4/5","" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5","" using 1:(\$5+\$6
+\$7) lc rgb "red" t "2/5","" using 1:(\$6+\$7) lc rgb "green" t "1/5","" using 1:(\$7) lc rgb "pink" t "0/5
8671 set term postscript;set output "ProbDistG0.eps";replot
8672 quit
8673 EOF
8674 gv ProbDistG1.eps&
8675 gv ProbDistG0.eps&
8676 cd -
8677 ### copy and paste to here
8678 #########for confirmation 20151008 above
8679 d1=../result-onsei_iCsiCd; if [ ! -e $d1 ]; then mkdir $tmp/fi
8680 ###############################################>>
8681 ###############################################
8682 ###############################################
8683 ###############################################
8684 ###############################################
8685 ###############################################
8686 ###数字と話者 combineby Sakashita
8687 ### copy and paste from here
8688 make
8689 cd -
8690 export SorD="S"; #speaker or digit
8691 export SorD="D"; #speaker or digit
8692 tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
8693 d1=../result-onsei_iCsiCd; if [ ! -e $d1 ]; then mkdir $d1;fi
8694 for gibbs in 1 0; do
8695 fhg=$tmp/histG${gibbs}.dat
8696 cat /dev/null > $fhg
8697 ###############################################
8698 for iCd in 0 1 2 3 4 5; do  ##################>
8699 if [ $gibbs -eq 1 ]; then
8700 pAs=0.80:pAd=0.96:T=5:TT=15:gibbs=1;      #for GEBI pApAd:pA:pAd
8701 else
8702 pAs=0.99:pAd=0.80:T=5:TT=15:gibbs=0;      #for BI  pApAd:pA:pAd
8703 fi
8704 for iCs in 0 2 3; do  ###############################>>
8705 cat /dev/null > resultsum.dat
8706 cat /dev/null > psdsum.dat
8707 for sX in 0 1 2 3 4 5 6; do sP=-1;
8708 test=test:5:2000:${iCs}:${iCd}:5:15:  #test:test->id:test->n:test->riCs:test->t_iCd:th->T
```

```
8709 ###
8710 trainDS=iconip14data:# trainDS=allpols:# choose
8711 cmd="speakerdigit_v5 fs:../../2012/12voicedata/${trainDS}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:../
../2012/12voicedata/iconip14data/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000
gibbs:$gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:
0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";$cmd > /dev/null
8712 cat $tmp/testsd_stat.dat >> resultsum.dat
8713 echo -e "\n" >> resultsum.dat
8714 cat $tmp/psd.dat >> psdsum.dat ########## <== speakerdigit_v5.c ,pG for speaker and digits ##psd.da
t->psdsum.dat
8715 done #for sX excluded speaker
8716 ############################################# choose t=15th pG1 and pB=pG0
8717 t->psdsum.dat
8718 ##########for SorD in "S" "D"; do ############for SorD
8719 export t=15;
8720 fb0=t-pG${t}
8721 fbr=${d1}/resultp_ics${iCs}icd${icd}G${gibbs}_${fb0}$
8722 cat /dev/null > ${fb0}.dat
8723 #echo "#pGC,t,n,pGC,pGCd" >> ${fb0}.dat #???
8724 if [ "$SorD" = "D" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $4,$0;}}' >> $
{fb0}.dat ; fi ##psdsum.dat ->fb0 for digits
8725 if [ "$SorD" = "S" ]; then cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $3,$0;}}' >> $
{fb0}.dat ; fi ##psdsum.dat ->fb0 for speakers
8726 #cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $3,$0;}}' >> ${fb0}.dat  ##psdsum.dat -
>fb0 for speakers
8727 cmd1="cp ${fb0}.dat ${fbr}.dat"
8728 echo $cmd1:$cmd1
8729 ####################
8730 cat /dev/null > ${fbr}_PPtrain.dat
8731 cat /dev/null > ${fbr}_PPtest.dat
8732 for sX in 0 1 2 3 4 5 6; do
8733 export sX1000=`expr $sX \* 1000`
8734 sed -n -e ''`expr ${sX1000} + 1`',`expr ${sX1000} + 1000`'p'' ${fbr}.dat >> ${fbr}_PPtrain.dat
8735 sed -n -e ''`expr ${sX1000} + 1001`',`expr ${sX1000} + 2000`'p'' ${fbr}.dat >> ${fbr}_PPtest.dat
8736 done #for sX
8737 ####################histogram by moving average
8738 x0=0;ndiv=100;nmav=3
8739 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
8740 fhe=${d1}/hist-ics${iCs}icd${icd}G${gibbs}.eps
8741 cp $tmp/hist.eps $fhe
8742 #gv $fhe& #disp result
8743 cp $fhg $tmp/histtmp.dat
8744 fhg=$tmp/histtmp.dat|awk '{print $3}' > tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg ##
8745 #paste $tmp/histtmp.dat tmp/hist.dat > $fhg
8746 sleep 2;
8747 ##########done # for SorD
8748 done # for iCs
8749 done # for iCd
8750
8751 #########for SorD in $SD; do ##############for SorD
8752 cp $fhg $tmp/histtmp.dat;cat tmp/hist.dat |awk '{print $1}'> tmp/hist1.dat;paste $tmp/histtmp.dat tm
p/hist1.dat > $fhg ###
8753 fpdg=$d1/ProbDistG${gibbs}.dat
8754 cat /dev/null > $fpdg
8755 ### if [ "$SorD" = "D" ]; then
8756 gnuplot <<EOF
8757 plot "ProbDistsG${gibbs}.dat" using 1:($2+$3+$3):plsum=$4+$5+$6;p2sum=$7+$8+$9;p3sum=$10+$11+$12;p4sum=$13+$14+$15;p5su
m=$16+$17+$18;psum+p0sum+p1sum+p2sum+p3sum+p4sum+p5sum+printf("%e %e %e %e\n",$19, p0sum/psum,p1sum
/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum);}' >> $fpdg
8758 else
8759 cat $fhg|awk '{p0sum=$1+$4+$7+$10+$13+$16;p1sum=$2+$5+$8+$11+$14+$17;p2sum=$3+$6+$9+$12+$15+$18;psum
=p0sum+p1sum+p2sum;printf("%e %e %e\n",$19, p0sum,p1sum,p2sum/psum);}' >> $fpdg
8760 fi
8761 set term postscript;set output "ProbDistsG${gibbs}.eps";replot
8762 quit
8763 EOF
8764 gnuplot <<EOF
8765 plot "ProbDistsG${gibbs}.dat" using 1:($2+$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\
$3+\$4+\$5+\$6+\$7) lc rgb "blue" t "4/5", "" using 1:($4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(
(\$5+\$6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pi
nk" t "0/5"
8766 if [ "$SorD" = "D" ]; then
8767 gnuplot <<EOF
8768 set yrange [0:1.3]; set style data boxes; #set style data histeps
8769 set style fill solid border lc rgb "black"
8770 set term tgif;set output "ProbDistG${gibbs}.obj";
8771 plot "ProbDisG${gibbs}.dat" using 1:($2+$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\
$3+\$4+\$5+\$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(
(\$5+\$6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pi
nk" t "0/5"
8772 set term postscript;set output "ProbDistsG${gibbs}.eps";replot
8773 quit
8774 EOF
8775 else
8776 gnuplot <<EOF
```

```
8777 set yrange [0:1.3]; set style data boxes; #set style data histeps
8778 set style fill solid border lc rgb "black"
8779 set term tgif;set output "ProbDistG${gibbs}.obj";
8780 plot "ProbDistsG${gibbs}.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker", "" using 1:(\$
3+\$4) lc rgb "yellow" t "Unregistered Speaker", "" using 1:(\$3) lc rgb "red" t "Incorrect Speaker"
8781 set term postscript;set output "ProbDistsG${gibbs}.eps";replot
8782 quit
8783 EOF
8784 fi
8785 gv ProbDistG${gibbs}.eps&
8786 cd -; #previous directory
8787 ##########done # for SorD
8788 done #for gibbs
8789 ###########################################
8790
8791
8792
8793
8794
8795 ##########back good
8796 make
8797 tmp=~/tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
8798 d1=../result-onsei_icsicd; if [ ! -e $d1 ]; then mkdir $d1;fi
8799 for gibbs in 1 0; do
8800 fhg=$tmp/histG${gibbs}.dat
8801 cat /dev/null > $fhg
8802
8803 for iCd in 0 1 2 3 4 5; do
8804 ####################### try identification
8805 if [ $gibbs -eq 1 ]; then
8806 pAs=0.80:pAd=0.96:T=5;TT=15;gibbs=1;        #for GEBI pApAd:pA:pAd
8807 else
8808 pAs=0.99:pAd=0.80:T=5;TT=15;gibbs=0;        #for BI   pApAd:pA:pAd
8809 fi
8810 for iCs in 0 2 3; do
8811 cat /dev/null > resultsum.dat
8812 cat /dev/null > psdsum.dat
8813 for sX in 0 1 2 3 4 5 6; do sP=-1;
8814 test=test:5:2000:${iCs}:${iCd}:$15;        #test:test->id:test->n:test->riCs:test->t_iCd:th->T
8815 ###
8816 trainDS=iconip14data:# trainDS=allpols:# choose
8817 cmd="speakerdigit_v5 fs:../../2012/12voicedata/${trainDS}/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:../
../2012/12voicedata/iconip14data/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000
gibbs:$gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:
0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";$cmd > /dev/null
8818 cat $tmp/testsd_stat.dat >> resultsum.dat
8819 echo -e "\n" >> resultsum.dat
8820 cat $tmp/psd.dat >> psdsum.dat ########## <== speakerdigit_v5.c ,pG for speaker and digits ##psd.da
t->psdsum.dat
8821 done #for sX excluded speaker
8822 ############################################# choose t=15th pG1 and pB=pG0
8823 export t=15;
8824 fb0=t-pG${t}
8825 fbr=${d1}/resultp_ics${iCs}icd${icd}G${gibbs}_${fb0}
8826 cat /dev/null > ${fb0}.dat
8827 #echo "#pGC,t,n,pGC,pGCd" >> ${fb0}.dat #???
8828 cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $4,$0;}}' >> ${fb0}.dat ##psdsum.dat ->
fb0 for digits
8829 cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $3,$0;}}' >> ${fb0}.dat ##psdsum.dat -
>fb0 for speakers
8830
8831 cmd1="cp ${fb0}.dat ${fbr}.dat"
8832 echo $cmd1:$cmd1
8833
8834 ####################
8835 cat /dev/null > ${fbr}_PPtrain.dat
8836 cat /dev/null > ${fbr}_PPtest.dat
8837 for sX in 0 1 2 3 4 5 6; do
8838 export sX1000=`expr $sX \* 1000`
8839 sed -n -e ''`expr ${sX1000} + 1`',`expr ${sX1000} + 1000`'p'' ${fbr}.dat >> ${fbr}_PPtrain.dat
8840 sed -n -e ''`expr ${sX1000} + 1001`',`expr ${sX1000} + 2000`'p'' ${fbr}.dat >> ${fbr}_PPtest.dat
8841 done #for sX
8842 ####################histogram by moving average
8843 x0=0;ndiv=100;nmav=3
8844 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_PPtrain.dat"
8845 echo $cmd:$cmd
8846 fhe=${d1}/hist-ics${iCs}icd${icd}G${gibbs}.eps
8847 cp $tmp/hist.eps $fhe
8848 gv $fhe& #disp result
8849 cp $fhg $tmp/histtmp.dat
8850 cat tmp/hist.dat |awk '{print $3}'> tmp/hist3.dat;paste $tmp/histtmp.dat tmp/hist3.dat > $fhg  ##
8851 #paste $tmp/histtmp.dat tmp/hist.dat > $fhg
```

```
8852 ###################
8853 sleep 2;
8854 done # for iCs
8855 done # for iCd
8856 cp $fhg $tmp/histtmp.dat;cat tmp/hist.dat |awk '{print $1}' > tmp/hist1.dat;paste $tmp/histtmp.dat tm
p/hist1.dat > $fhg ###
8858 fpdg=$dl/ProbDistG${gibbs}.dat
8859 cat /dev/null > $fpdg
8860 ###
8861 #cat $fhg|awk '{p0sum=$3+$7+$11;p1sum=$15+$19+$23;p2sum=$27+$31+$35;p3sum=$39+$43+$47;p4sum=$51+$55+
$59;p5sum=$63+$67+$71;psum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum;printf("%e %e %e %e %e\n",$1, p0sum/psu
m,p1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum);}' >> $fpdg
8862 cat $fhg|awk '{p0sum=$1+$2+$3;p1sum=$4+$5+$6;p2sum=$7+$8+$9;p3sum=$10+$11+$12;p4sum=$13+$14+$15;p5su
m=$16+$17+$18;psum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$19, p0sum/psum,p1sum
/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum);}' >> $fpdg
8863 done #for gibbs
8864 ##########
8865 cd $dl
8866 gnuplot <<EOF
8867 set yrange [0:1.3]; set style data boxes; #set style data histeps
8868 set style fill solid border lc rgb "black"
8869 set style tgif;set output "ProbDistG1.obj";
8870 plot "ProbDistG1.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+
\$5+\$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$
6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "
0/5"
8872 set term postscript;set output "ProbDistG1.eps";replot
8873 set term tgif;set output "ProbDistG0.obj"
8874 plot "ProbDistG0.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+
\$5+\$6+\$7) lc rgb "blue" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$
6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "
0/5"
8875 set term postscript;set output "ProbDistG0.eps";replot
8876 quit
8877 EOF
8878 gv ProbDistG1.eps&
8879 gv ProbDistG0.eps&
8880 cd -
8881 ###########
8882 ###########
8890 ##################
8902 20150909
8903 ###数字 by sakashita
8905 ### copy and paste from here
8906 make
8907 tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
8908 dl=../result-onsei_iCsiCd; if [ ! -e $dl ]; then mkdir $dl;fi
8909 for gibbs in 1 0; do
8910 fhg=$tmp/histG${gibbs}.dat
8911 cat /dev/null > $fhg
8913 for iCd in 0 1 2 3 4 5; do
8914 ##############  try identification
8915 if [ $gibbs -eq 1 ]; then
8916 pAs=0.80:pAd=0.96;T=5;TT=15;gibbs=1;    #for GEBI  pApAd:pA:pAd
8917 else
8918 pAs=0.99:pAd=0.80;T=5;TT=15;gibbs=0;    #for BI    pApAd:pA:pAd
8919 fi
8920 for iCs in 0 2 3; do
8921 cat /dev/null > resultsum.dat
8922 cat /dev/null > psdsum.dat
```

```
8923 for sX in 0 1 2 3 4 5 6; do sP=-1;
8924 test=test:5:2000:${iCs}:${iCd}:5:15;    #test=test->id:test->n:test->riCs:test->t_iCd:th->T
8925 ###
8926 trainDS=allpols#
8927 trainDS=iconipl4data:#choo
8928 cmd="speakerdigit_v5 fs:../../2012/12voicedata/iconipl4data/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:.
./../2012/12voicedata/iconipl4data/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:100
0 gibbs:$gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 1T:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LA
R:0:0:-1 test:5:2000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0';$cmd > /dev/null
8929 ###
8930 #cmd="speakerdigit_v5 fs:../../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:./..
/2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$
gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 1T:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1
test:5:1000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0';$cmd > /dev/null
8931 cat $tmp/testsd_stat.dat >> resultsum.dat
8932 echo -e "\n" >> resultsum.dat
8933 cat $tmp/psd.dat >> psdsum.dat  ############# <== speakerdigit_v5.c
8934 done
8935 ################################### choose t=15th pG1 and pB=pG0
8936 export t=15:fB0=t-pG${t};
8937 fbr=${dl}/resultp_ics${iCs}icd${iCd}G${gibbs}-${fB0}
8938 cat /dev/null > ${fB0}.dat
8939 echo "#pGC,t,n,pGC,pGCd" >> ${fB0}.dat
8940 cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"]}{if($1==t){print $4,$0;}}' >> ${fB0}.dat
8941 cmdl="cp ${fB0}.dat ${fbr}.dat"
8942 echo $cmdl;$cmdl
8943 ###################
8944 cat /dev/null > ${fbr}_head.dat
8945 cat /dev/null > ${fbr}_tail.dat
8946 sed -n '1,1000p'   ${fbr}.dat >> ${fbr}_head.dat
8947 sed -n '1001,2000p' ${fbr}.dat >> ${fbr}_tail.dat
8948 sed -n '2001,3000p' ${fbr}.dat >> ${fbr}_head.dat
8949 sed -n '3001,4000p' ${fbr}.dat >> ${fbr}_tail.dat
8950 sed -n '4001,4000p' ${fbr}.dat >> ${fbr}_head.dat
8951 sed -n '5001,6000p' ${fbr}.dat >> ${fbr}_tail.dat
8952 sed -n '6001,7000p' ${fbr}.dat >> ${fbr}_head.dat
8953 sed -n '7001,8000p' ${fbr}.dat >> ${fbr}_tail.dat
8954 sed -n '8001,9000p' ${fbr}.dat >> ${fbr}_head.dat
8955 sed -n '9001,10000p' ${fbr}.dat >> ${fbr}_tail.dat
8956 sed -n '10001,11000p'  ${fbr}.dat >> ${fbr}_head.dat
8957 sed -n '11001,12000p' ${fbr}.dat >> ${fbr}_tail.dat
8958 sed -n '12001,13000p' ${fbr}.dat >> ${fbr}_head.dat
8959 sed -n '13001,14000p' ${fbr}.dat >> ${fbr}_tail.dat
8960 ###################
8961 x0=0;ndiv=100;nmav=3
8962 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}_head.dat"
8963 echo $cmd; $cmd
8964 fhe=${dl}/hist-ics${iCs}icd${iCd}G${gibbs}.eps
8965 cp $tmp/hist.eps $fhe
8966 gv $fhe&
8967 cp $fhg $tmp/histtmp.dat
8968 paste $tmp/histtmp.dat tmp/hist.dat > $fhg
8969 sleep 2;
8970 done # for iCs
8971 done # for iCd
8972 fpdg=$dl/ProbDistG${gibbs}.dat
8973 cat /dev/null > $fpdg
8974 ###
8975 #cat $fhg|awk '{psum=$3+$7+$11+$15+$19+$23+$27+$31+$35+$39+$43+$47+$51+$55+$59+$63+$67+$71+1e-20;
8976 cat $fhg|awk '{p0sum=$3+$7+$11;p1sum=$15+$19+$23;p2sum=$27+$31+$35;p3sum=$39+$43+$47;p4sum=$51+$55+$
59;p5sum=$63+$67+$71;psum=p0sum+p1sum+p2sum+p3sum+p4sum+p5sum;printf("%e %e %e %e %e %e\n",$1, p0sum/psum
,p1sum/psum,p2sum/psum,p3sum/psum,p4sum/psum,p5sum/psum);}' >> $fpdg
8977 done #for gibbs
8978 ##########
8979 cd $dl
8980 gnuplot <<EOF
8981 set yrange [0:1.3]; set style data boxes; #set style data histeps
8982 set style fill solid border lc rgb "black"
8983 set style tgif;set output "ProbDistG1.obj";
8984 plot "ProbDistG1.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+
\$5+\$6+\$7) lc rgb "yellow" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$
6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "
0/5"
8985 set term postscript;set output "ProbDistG1.eps";replot
8986 set term tgif;set output "ProbDistG0.obj"
8987 plot "ProbDistG0.dat" using 1:(\$2+\$3+\$4+\$5+\$6+\$7) lc rgb "black" t "5/5", "" using 1:(\$3+\$4+
\$5+\$6+\$7) lc rgb "yellow" t "4/5", "" using 1:(\$4+\$5+\$6+\$7) lc rgb "yellow" t "3/5", "" using 1:(\$5+\$
6+\$7) lc rgb "red" t "2/5", "" using 1:(\$6+\$7) lc rgb "green" t "1/5", "" using 1:(\$7) lc rgb "pink" t "
0/5"
8988 set term postscript;set output "ProbDistG0.eps";replot
8989 quit
8990 EOF
```

```
8991 gv ProbDistG1.eps&
8992 gv ProbDistG0.eps&
8993 cd -
8994 ### copy and paste to here
8995
8996 ###################
8997
8998 ###################
8999 20141119
9000 [1] 次の誤り を修正した：
9001    oob4speakerdigit+sX.c の233行目のコメントアウトを外した。
9002    特に243行目は必須な学習のコメントアウトしていた ; 233 239行目は同じ学習をしない
9003    ための前処理。
9004
9005 20141103 新者
9006 [1] 下の「20140502 at mesaho」の(1)～(5)で作成したファイルを使い、
9007    「(6) make Figs for ICONIP2014」のところを以下のように変更。
9008    なお、histmav1.cとhistmav1-onsei.cを修正。
9009 ### copy and paste from here
9010 make
9011 tmp=./tmp;if [ ! -e $tmp ]; then mkdir $tmp;fi
9012 dl=./result-onsei;if [ ! -e $dl ]; then mkdir $dl;fi
9013 for gibbs in 1 0; do
9014 fhg=$tmp/histG${gibbs}.dat
9015 cat /dev/null > $fhg
9016 for iCs in 0 2 3; do #0 for CSR, 2 for ISR, 3 for ISU
9017 ############# try identification
9018 if [ $gibbs -eq 1 ]; then
9019 pAs=0.80:pAd=0.96;T=5;TT=15;gibbs=1;    #for GEBI pApAd:pA:pAd
9020 else                                    #for BI   pApAd:pA:pAd
9021 pAs=0.99;pAd=0.80;T=5;TT=15;gibbs=0;
9022 fi
9023 iCd=0;
9024 cat /dev/null > resultsum.dat
9025 cat /dev/null > psdsum.dat
9026 for sX in 0 1 2 3 4 5 6; do sP=-1;
9027 test=test:5:1000:${iCd}:5:15;    #test=test:5:1000:${iCd}:5:15;
9028 cmd="speakerdigit_v5 fs:../../2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y fd:.
9029 #cmd="speakerdigit_v5 fs:../../2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$
9030 /2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$
9031 gibbs beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1
9032 test:5:1000:${iCs}:${iCd}:$T:$TT sX:$sX sP:$sP void:0";$cmd > /dev/null
9033 cat $tmp/testsd_stat.dat >> resultsum.dat
9034 echo -e "\n" >> resultsum.dat
9035 cat $tmp/psd.dat >> psdsum.dat ############# <== speakerdigit_v5.c
9036 done
9037 export t=15;fb0=-p$t;fb0=-p$t;
9038 fbr=${dl}/resultp_iCs${iCs}iCd${iCd}G${gibbs}-${fb0}
9039 cat /dev/null > ${fb0}.dat
9040 echo "#pGC,t,n,pGC,pGCA" >> ${fb0}.dat
9041 cat psdsum.dat|awk 'BEGIN{t=ENVIRON["t"];}{if($1==t){print $3,$0/}}' >> ${fb0}.dat
9042 cmd1="cp ${fb0}.dat ${fbr}.dat"
9043 echo $cmd1;$cmd1
9044 x0=0;ndiv=100;nmav=3
9045 cmd="histmav1-onsei $x0 $ndiv $nmav ${fbr}.dat"
9046 echo $cmd; $cmd
9047 fhe=${dl}/hist-iCs${iCs}iCd${iCd}G${gibbs}.eps
9048 gv $fhe&
9049 cp $fhg $tmp/histtmp.dat
9050 paste $tmp/histtmp.dat tmp/hist.dat > $fhg
9051 sleep 2;
9052 done # for iCs
9053 fpdg=$dl/ProbDistG${gibbs}.dat
9054 cat /dev/null > $fpdg
9055 cat $fhg|awk '{psum=$3+$7+$11+1e-20;printf("%e %e %e %e\n", $1, $3/psum, $7/psum, $11/psum);}' >> $fp
dg
9056 done # for gibbs
9057 ###
9058 cd $dl
9059 gnuplot <<EOF
9060 set style data boxes; #set style data histeps
9061 set style fill solid border lc rgb "black"
9062 set term tgif;set output "ProbDistG1.obj";
9063 plot "ProbDistG1.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker Registered", "" using 1
:(\$3) lc rgb "yellow" t "Incorrect Speaker Unregistered", "" using 1:(\$3) lc rgb "red" t "Incorrect Sp
eaker Registered"
```

```
9064 set term postscript;set output "ProbDistG1.eps&
9065 set term tgif;set output "ProbDistG0.obj"
9066 plot "ProbDistG0.dat" using 1:(\$2+\$3+\$4) lc rgb "blue" t "Correct Speaker Registered", "" using 1
:(\$3+\$4) lc rgb "yellow" t "Incorrect Speaker Unregistered", "" using 1:(\$3) lc rgb "red" t "Incorrect Sp
eaker Registered"
9067 set term postscript;set output "ProbDistG0.eps&
9068 quit
9069 EOF
9070 gv ProbDistG1.eps&
9071 gv ProbDistG0.eps&
9072 ### copy and paste to here
9073
9074
9075
9076 ###################
9077 ###################
9078 20140502 at mesaho
9079 (1) tune a,b,N via checking error for sX of speaker-CAN2
9080 make data-clean
9081 for sX in -1 0 1 2 3 4 5 6; do
9082 a=1.6;b=300;N=40
9083 cmd="oob4speakerdigit+sX sp:fhs:fms:mkk:mko:tmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:k
yu ntxi:10 k:36 mbas:2:${b}:${a}:1 dir:../../2012/12voicedata/allpole s:-1 N:${N} sX:${sX}"
9084 echo $cmd:$cmd
9085 cmd1="cat ../../2012/12voicedata/allpole/oob4s:-1N${N}mbas2:${b}:1sX${sX}.ystat"
9086 echo $cmd1;$cmd1
9087 done
9088 # for check UnReg error
9089 a=1.6;b=300;N=40;for sX in -1 0 1 2 3 4 5 6; do speakerdigit_v3 fs:../../2012/12voicedata/allpole/oo
b4s:-1N${N}mbas2:${b}:${a}:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5
:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:1 LAR:0:0:-1 test:5:1000:3:0:5:15 sX:${sX} void:0 |grep
 "#TP">TP.dat;echo -n "#a${a}b${b}N${N} ";cat TP.dat: done
9090 ###
9091 #a1.6b300N40 #TP0.933 TN0.976 ERI.851e-05 ERR2.020e-04 n4900(Reg) TP0.000 TN0.907 ERI.327e-04 ER2.122e-04 n700(UnReg:sX0) TP0
9092 #a1.6b300N40 #TP0.938 TN0.982 ERI.905e-05 ERR2.082e-04 n4200(Reg) TP0.000 TN0.923 ERI.102e-04 ER2.163e-04 n700(UnReg:sX1) TP0
.811 TN0.970 ER4.474e-05 n4900(All)***
9093 #a1.6b300N40 #TP0.947 TN0.985 ERI.634e-05 ERR2.041e-04 n4200(Reg) TP0.000 TN0.903 ERI.388e-04 ER2.143e-04 n700(UnReg:sX2) TP0
.839 TN0.975 ER3.803e-05 n4900(All)
9094 #a1.6b300N40 #TP0.952 TN0.987 ERI.455e-05 ERR2.041e-04 n4200(Reg) TP0.000 TN0.920 ERI.143e-04 ER2.020e-04 n700(UnReg:sX3) TP
.834 TN0.973 ER3.937e-05 n4900(All)
9095 #a1.6b300N40 #TP0.943 TN0.983 ERI.766e-05 ERR2.020e-04 n4200(Reg) TP0.000 TN0.919 ERI.163e-04 ER2.061e-04 n700(UnReg:sX4) TP
.826 TN0.972 ER4.110e-05 n4900(All)
9096 #a1.6b300N40 #TP0.970 TN0.986 ERI.052e-05 ERR2.061e-04 n4200(Reg) TP0.000 TN0.901 ERI.726e-04 ER2.041e-04 n700(UnReg:sX5) TP
.843 TN0.975 ER3.707e-05 n4900(All)
9097 #a1.6b300N40 #TP0.940 TN0.988 ERI.640e-05 ERR2.041e-04 n4200(Reg) TP0.000 TN0.923 ERI.102e-04 ER2.082e-04 n700(UnReg:sX6) FP
.832 TN0.973 ER3.973e-05 n4900(All)
9098 .852 TN0.977 ER3.47e-05 n4900(All)
9099 ###
9100 #a1.6b100N100 #TP0.946 TN0.977 ERI.924e-05 n4900(Reg) TP0.000 TN0.929 ERI.399e-05 n4900(Reg)
9101 #a1.6b100N100 #TP0.925 TN0.983 ERI.183e-04 n4200(Reg) TP0.000 TN0.928 ERI.984e-05 n4200(Reg)
.798 TN0.967 ER4.792e-05 n4900(All)***
9102 #a1.6b100N100 #TP0.942 TN0.984 ERI.779e-05 n4200(Reg) TP0.000 TN0.938 TN0.988 ERI.759e-05 n4200(Reg)
.794 TN0.966 ER4.895e-05 n4900(All)
9103 #a1.6b100N100 #TP0.952 TN0.985 ERI.501e-05 n4200(Reg) TP0.000 TN0.940 TN0.991 ERI.653e-05 n4200(Reg)
.808 TN0.969 ER4.554e-05 n4900(All)
9104 #a1.6b100N100 #TP0.942 TN0.984 ERI.779e-05 n4200(Reg) TP0.000 TN0.950 TN0.993 ERI.362e-05 n4200(Reg)
.820 TN0.971 ER4.264e-05 n4900(All)
9105 #a1.6b100N100 #TP0.933 TN0.981 ERI.369e-05 n4900(Reg) TP0.000 TN0.942 TN0.991 ERI.607e-05 n4200(Reg)
.808 TN0.969 ER4.548e-05 n4900(All)
9106 #a1.6b100N100 #TP0.928 TN0.984 ERI.233e-05 n4900(Reg) TP0.000 TN0.948 TN0.990 ERI.462e-05 n4200(Reg)
.808 TN0.969 ER4.554e-05 n4900(All)
9107 #a1.6b100N100 #TP0.937 TN0.983 ERI.573e-05 n4900(Reg) TP0.000 TN0.960 TN0.993 ERI.131e-05 n4200(Reg)
.817 TN0.970 ER4.347e-05 n4900(All)
9108
9109 #a1.6b100N40 #TP0.929 TN0.977 ERI.924e-05 n4900(Reg)
9110 #a1.6b100N40 #TP0.925 TN0.983 ERI.183e-04 n4200(Reg)
.772 TN0.962 ER5.433e-05 n4900(All)
9111 #a1.6b100N40 #TP0.942 TN0.984 ERI.779e-05 n4200(Reg)
.774 TN0.962 ER5.396e-05 n4900(All)
9112 #a1.6b100N40 #TP0.952 TN0.985 ERI.501e-05 n4200(Reg)
.783 TN0.963 ER5.173e-05 n4900(All)
9113 #a1.6b100N40 #TP0.942 TN0.984 ERI.779e-05 n4200(Reg)
.775 TN0.962 ER5.369e-05 n4900(All)
9114 #a1.6b100N40 #TP0.933 TN0.981 ERI.369e-05 n4900(Reg)
.761 TN0.959 ER5.716e-05 n4900(All)
9115 #a1.6b100N40 #TP0.928 TN0.984 ERI.233e-05 n4900(Reg)
.780 TN0.963 ER5.233e-05 n4900(All)
9116 #a1.6b100N40 #TP0.937 TN0.983 ERI.573e-05 n4900(Reg)
.767 TN0.960 ER5.573e-05 n4900(All)
9117
9118 (2) tune a,b,N via checking error for sX of digit-CAN2
```

```
9119  #see 2013/02/27
9120  for sX in -1 0 1 2 3 4 5 6 7; do
9121  a-1.6:b-300:N=100
9122  cmd="oob4speakerdigit-sX sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:k
      yu ntxi:10 k:36 mbas:2:${a}:1 dir:../../2012/12voicedata/allpole d:-1 N:${N} sX:$-$sX"
9123  echo $cmd:$cmd
9124  cmd1="cat ../../2012/12voicedata/allpole/oob4d:-1N${N}mbas2:${b}:${a}:1sX${sX}.ystat"
9125  echo $cmd1:$cmd1
9126  done
9127  a-1.6:b-300:N=100:for sX in -1 0 1 2 3 4 5 6: do speakerdigit_v3 fd:../../2012/12voicedata/allpole/o
      ob4d:-1N$ [N]mbas2:${b}:${a}:1sX${sX}.y nSDL:7:10:10 ytm:1:0.9:1000 gibbs:1 beta:1 sdP:0:0:1:2:3:4:
      5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd: LAR:0:0:-1 test:5:1000:3:0:5:15 sX:${sX} void:0  |gre
      p "HTP">TP.dat;echo -n "#a${a}b${b}N${N} ";cat TP.dat:done
9128  #a1.6b100N100 #TP0.953 TN0.994 ER7.551e-06 n7000(Reg)   TP0.940 TN0.996 ER6.667e-05 n6000(Reg)  T
9129  P0.959 TN0.995 ER6.568e-06 n7000(All)****
9130  #a1.6b100N100 #TP0.962 TN0.996 ER6.790e-06 n7000(Reg)   TP0.990 TN0.998 ER1.222e-05 n6000(Reg)  T
9131  P0.978 TN0.998 ER3.441e-06 n7000(All)
9132  #a1.6b100N100 #TP0.973 TN0.996 ER5.062e-06 n7000(Reg)   TP1.000 TN0.998 ER2.222e-06 n6000(Reg)  T
9133  P0.969 TN0.997 ER4.951e-06 n7000(All)
9134  #a1.6b100N100 #TP0.963 TN0.997 ER6.574e-06 n7000(Reg)   TP0.990 TN0.999 ER1.111e-05 n6000(Reg)  T
9135  P0.977 TN0.997 ER3.661e-06 n7000(All)
9136  #a1.6b100N100 #TP0.996 TN0.996 ER6.821e-06 n7000(Reg)   TP0.990 TN0.998 ER1.222e-05 n6000(Reg)  T
9137  P0.959 TN0.996 ER6.568e-06 n7000(All)****
9138  #a1.6b100N100 #TP0.963 TN0.996 ER6.704e-06 n7000(Reg)   TP0.990 TN0.998 ER2.222e-05 n6000(Reg)  T
9139  P0.967 TN0.996 ER5.263e-06 n7000(All)
9140  #a1.6b100N100 #TP0.952 TN0.995 ER8.364e-06 n7000(Reg)   TP0.980 TN0.998 ER2.222e-05 n6000(Reg)  T
9141  P0.959 TN0.995 ER6.794e-06 n7000(All)
9142  #a1.6b100N100 #TP0.953 TN0.996 ER8.488e-06 n7000(Reg)   TP0.990 TN0.998 ER1.222e-05 n6000(Reg)  T
9143  P0.958 TN0.996 ER5.698e-06 n7000(All)
9144  #a1.6b300N100 #TP0.951 TN0.994 ER7.823e-06 n7000(Reg)   TP0.940 TN0.993 ER6.778e-06 n6000(Reg)  T
9145  P0.953 TN0.995 ER7.454e-06 n7000(All)****SoSo
9146  #a1.6b300N100 #TP0.968 TN0.996 ER5.895e-06 n7000(Reg)   TP0.980 TN0.999 ER2.111e-05 n6000(Reg)  T
9147  P0.970 TN0.997 ER4.762e-06 n7000(All)
9148  #a1.6b300N100 #TP0.968 TN0.996 ER5.864e-06 n7000(Reg)   TP0.980 TN0.998 ER2.222e-06 n6000(Reg)  T
9149  P0.971 TN0.997 ER4.541e-06 n7000(All)
9150  #a1.6b300N100 #TP0.962 TN0.996 ER7.006e-06 n7000(Reg)   TP0.980 TN0.999 ER3.111e-05 n6000(Reg)  T
9151  P0.968 TN0.997 ER5.008e-06 n7000(All)
9152  #a1.6b300N100 #TP0.967 TN0.996 ER6.204e-06 n7000(Reg)   TP0.970 TN0.999 ER3.111e-05 n6000(Reg)  T
9153  P0.969 TN0.997 ER4.995e-06 n7000(All)
9154  #a1.6b300N100 #TP0.962 TN0.995 ER7.191e-06 n7000(Reg)   TP0.980 TN0.997 ER2.333e-05 n6000(Reg)  T
9155  P0.959 TN0.995 ER6.542e-06 n7000(All)
9156  #a1.6b300N100 #TP0.950 TN0.995 ER6.198e-06 n7000(Reg)   TP0.970 TN0.999 ER3.111e-05 n6000(Reg)  T
9157  P0.958 TN0.995 ER6.610e-06 n7000(All)
9158  #a1.6b100N40 #TP0.943 TN0.989 ER9.751e-06 n7000(Reg)    TP0.940 TN0.989 ER4.667e-05 n6000(Reg)  TP
9159  0.941 TN0.993 ER9.403e-06 n7000(All)
9160  #a1.6b100N40 #TP0.957 TN0.994 ER8.302e-06 n7000(Reg)    TP0.960 TN0.993 ER8.111e-05 n6000(Reg)  TP
9161  0.941 TN0.993 ER1.039e-05 n7000(All)
9162  #a1.6b100N40 #TP0.962 TN0.992 ER7.654e-06 n7000(Reg)    TP0.930 TN0.989 ER9.111e-05 n6000(Reg)  TP
9163  0.935 TN0.993 ER1.052e-05 n7000(All)
9164  #a1.6b100N40 #TP0.950 TN0.993 ER9.475e-06 n7000(Reg)    TP0.920 TN0.989 ER5.000e-05 n6000(Reg)  TP
9165  0.934 TN0.993 ER1.063e-05 n7000(All)
9166  #a1.6b100N40 #TP0.938 TN0.993 ER1.142e-05 n7000(Reg)    TP0.960 TN0.990 ER6.667e-05 n6000(Reg)  TP
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      0.933 TN0.993 ER1.075e-05 n7000(All)
      #a1.6b100N40 #TP0.955 TN0.993 ER8.735e-06 n7000(Reg)    TP0.950 TN0.983 ER8.889e-05 n6000(Reg)  TP
      0.932 TN0.992 ER1.086e-05 n7000(All)
      #a1.6b100N40 #TP0.942 TN0.987 ER1.185e-05 n7000(Reg)    TP0.930 TN0.981 ER8.889e-05 n6000(Reg)  TP
      0.887 TN0.987 ER1.803e-05 n7000(All)
      #a1.6b300N40 #TP0.935 TN0.988 ER1.290e-05 n7000(Reg)    TP0.280 TN0.957 ER7.633e-04 n6000(Reg)  TP
      0.886 TN0.987 ER1.816e-05 n7000(All)
      #a1.6b300N40 #TP0.929 TN0.990 ER1.156e-05 n7000(Reg)    TP0.410 TN0.962 ER6.278e-04 n6000(Reg)  TP
      0.878 TN0.987 ER1.929e-05 n7000(All)NG for sX
      #a1.6b300N40 #TP0.952 TN0.991 ER9.568e-06 for sX        TP0.650 TN0.976 ER3.744e-04 n6000(Reg)  TP
      0.881 TN0.987 ER1.894e-05 n7000(All)
      #a1.6b300N40 #TP0.940 TN0.993 ER1.114e-05 n7000(Reg)    TP0.590 TN0.981 ER4.289e-04 n6000(Reg)  TP
      0.914 TN0.991 ER1.359e-05 n7000(All)
      #a1.6b300N40 #TP0.958 TN0.994 ER8.673e-06 n7000(Reg)    TP0.450 TN0.961 ER5.889e-04 n6000(Reg)  TP
      0.932 TN0.993 ER1.004e-05 n7000(All)
      #a1.6b300N40 #TP0.953 TN0.994 ER8.796e-06 n7000(Reg)    TP0.760 TN0.987 ER7.932e-06 n6000(Reg)  TP
      0.901 TN0.989 ER1.572e-05 n7000(All)
      #a1.6b300N40 #TP0.953 TN0.994 ER8.765e-06 n7000(Reg)    TP0.520 TN0.978 ER5.022e-04 n6000(Reg)  TP
      0.937 TN0.993 ER1.075e-05 n7000(All)
      #a1.6b50N40 #TP0.935 TN0.991 ER1.225e-05 n7000(All)     TP0.900 TN0.984 ER1.156e-04 n1000(UnReg:sX0)  T
      P0.916 TN0.990 ER1.342e-05 n7000(All)
      #a1.6b100N40 #TP0.957 TN0.994 ER8.302e-06 n7000(Reg)    TP0.940 TN0.992 ER6.778e-05 n1000(UnReg:sX0)  T
      P0.916 TN0.993 ER9.403e-06 n7000(All)
      #a1.6b100N100 #TP0.963 TN0.996 ER6.821e-06 n7000(Reg)   TP0.940 TN0.993 ER6.667e-05 n1000(UnReg:sX0)  T
      P0.959 TN0.995 ER6.568e-06 n7000(All)
      #a1.6b100N40 #TP0.917 TN0.987 ER1.608e-05 n1000(UnReg:sX0)  TP
      #a1.6b300N40 #TP0.985 ER2.038e-05 n7000(All)
      #a1.6b30N40 #TP0.950 TN0.992 ER9.691e-06 n1000(UnReg:sX0)  TP
      #a1.6b100N40 #TP0.987 ER1.929e-05 n7000(All)
```

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      P0.959 TN0.995 ER6.568e-06 n7000(All)****
9167  #a0.7b100N40 #TP0.857 TN0.981 ER2.704e-05 n6000(Reg)   TP0.780 TN0.971 ER2.489e-04 n1000(UnReg:sX0)  TP
      0.822 TN0.980 ER2.830e-05 n7000(All)
9168  #a1.6b200N40 #TP0.917 TN0.987 ER1.608e-05 n6000(Reg)   TP0.840 TN0.976 ER1.844e-04 n1000(UnReg:sX0)  TP
      0.872 TN0.985 ER2.038e-05 n7000(All)
9169  #a1.6b300N40 #TP0.950 TN0.992 ER9.691e-06 n6000(Reg)   TP0.280 TN0.957 ER7.633e-04 n1000(UnReg:sX0)  TP
      0.878 TN0.987 ER1.929e-05 n7000(All)
9170
9171  (3) commands for speaker+digit verification
9172  pAs=0.99:pAd=0.80:T=5:TT=15:;gibbs=0;   #for BI    pApAd:pA:pAd
9173  pAs=0.80:pAd=0.96:T=5;TT=15:gibbs=1     #for GEBI  pApAd:pA:pAd
9174  iCs=0:iCd=0:  # test correct (registered) speaker
9175  iCs=1:iCd=0:  # test incorrect registered and unregistered sX
9176  iCs=2:iCd=0:  # test incorrect registered
9177  iCs=3:iCd=0:  # test (incorrect) unregistered sX
9178  cat /dev/null > resultsum.dat
9179  for sX in 0 1 2 3 4 5 6; do
9180  test=test:5:1000:${iCs}:${iCd}:5:15;   #test:test->riCs:test->t_iCd:th->T
9181  cmd="speakerdigit_v5 fs:../../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y fd:../../
      2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:${
      gibbs} beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1
      test:5:1000:${iCs}:${iCd}:${T}:$TT sX:$sX void:0";$cmd > /dev/null
9182  cat tmp/testsd_stat.dat >> resultsum.dat
9183  echo -e "\n" >> resultsum.dat
9184  done
9185  for in 15; do #for tex
9186  export t:cat resultsum.dat|awk 'BEGIN{t=ENVIRON["t"];Asd=As=Ad=0;n=0;} {if($1==t){Asd+=$10:Rsd+=$11:
      As+=$12!Rs+=$13;Ad+=$14;Rd+=$15;a16=$16;a17=$17;a18=$18:a19+$19;a20=$20;} END{printf("#t%d {%.1f}{%.1f}{%.1f
      }{Ad:As:Asd for pAsd@:g iC%d:%d/%d n%d}\n",t,100*Ad/(Ad+Rd),100*As/(As+Rs),100*Asd/(Asd+Rsd),a16,a17,a18,a
      19,a20,As+Rs);}'
9187  done
9188
9189  (4) tune pAs and pAd via EER (Equal Error Rate; FA \simeq FR) using (3) ; --> result pAsd0.8:0.96  f
      or Gibbs, pAsd=0.9:0.80 for Bayes(gibbs:0)
9190  ########## ########## ########## tune pAsd for FA \simeq FR, Gibbs pAsd=0.8:0.96
9191  #Gibbs (gibbs:1)
9192  #t15 {99.0}{1.2}{1.1}{Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}   FAR=1.1
9193  #t15 {99.0}{99.8}{98.8}{Ad:As:Asd for pAsd0.8:0.96 iC0:0/5 n7000} FRR=1.2=100-98.8
9194  #bayes (gibbs:0)
9195  #t15 {97.7}{95.4}{94.0}{Ad:As:Asd for pAsd0.99:0.8 iC3:0/5 n7000} FRR=6.0=100-94.0
9196  #t15 {98.2}{5.1}{5.0}{Ad:As:Asd for pAsd0.99:0.8 iC3:0/5 n7000}   FRR=5.0
9197
9198  ### FAR for registered incorrect? nonsense result pAs=0.2 ?
9199  #t15 {99.9}{100.0}{99.9}{Ad:As:Asd for pAsd0.2:0.85 iC0:0/5 n7000}  FRR=0.1 pAsd0.2:0.85
9200  #t15 {99.9}{0.1}{0.1}{Ad:As:Asd for pAsd0.2:0.85 iC2:0/5 n7000}     FAR=0.1 pAs=0.2 is nonsense? dang
      erous?
9201
9202  ### ### ### ##### the following result is obtained with speakerdigit_v5-
9203  ###
9204  ####Gibbs (gibbs:0)
9205  ####Gibbs (gibbs:1)
9206  ###t15 {99.2}{1.2}{1.2}{Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}  FA=1.2 *** Use pAsd0.80:0.96 f
      or Gibbs
9207  ###t15 {99.1}{99.0}{Ad:As:Asd for pAsd0.8:0.96 iC0:0/5 n7000}      FR=0.9
9208  ###
9209  ###
9210  #####t15 {100.0}{0.1}{0.1}{Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}  using l[t] 20140514 at mesah
      #####t15 {99.9}{100.0}{99.9}{Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000} using l[t] 20140514 at mesa
      ho
9211  ###
9212  ####t15 {98.2}{99.9}{98.2}{Ad:As:Asd for pAsd0.8:0.97 iC0:0/5 n7000}  FR=1.8
9213  ####t15 {98.7}{1.2}{1.2}{Ad:As:Asd for pAsd0.8:0.97 iC3:0/5 n7000}    FA=1.2
9214  ###
9215  ####t15 {99.3}{1.2}{1.2}{Ad:As:Asd for pAsd0.8:0.95 iC3:0/5 n7000}    FA=1.2%
9216  ####t15 {99.2}{99.2}{Ad:As:Asd for pAsd0.8:0.95 iC0:0/5 n7000}        FR=0.8%
9217  ###
9218  ###### Bayes(gibbs:0)
9219  ####t15 {99.5}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.1 iC3:0/5 n7000}
9220  ####t15 {99.1}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.2 iC3:0/5 n7000}
9221  ####t15 {99.1}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.3 iC3:0/5 n7000}
9222  ####t15 {98.7}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.4 iC3:0/5 n7000}
9223  ####t15 {98.3}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.5 iC3:0/5 n7000}
9224  ####t15 {98.2}{0.1}{0.1}{Ad:As:Asd for pAsd0.99:0.6 iC3:0/5 n7000}
9225  ####t15 {97.9}{95.3}{93.9}{Ad:As:Asd for pAsd0.99:0.6 iC2:0/5 n7000}  FA=0.1 for registered incorrect
9226  ####t15 {97.9}{95.3}{93.9}{Ad:As:Asd for pAsd0.99:0.6 iC0:0/5 n7000}  FR=6.1
9227  ###
9228  ####t15 {98.1}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.7 iC3:0/5 n7000}    FA=5.5
9229  ####t15 {97.9}{95.3}{93.9}{Ad:As:Asd for pAsd0.99:0.7 iC0:0/5 n7000}  FR=6.1
9230  ####t15 {55.9}{95.5}{53.9}{Ad:As:Asd for pAsd0.99:0.7 iC0:2/5 n7000}  FA=53.9  worse than below
9231  ###
9232  ####t15 {98.1}{5.5}{5.5}{Ad:As:Asd for pAsd0.99:0.75 iC3:0/5 n7000}   FA=5.5
9233  ####t15 {97.9}{95.3}{93.9}{Ad:As:Asd for pAsd0.99:0.75 iC0:0/5 n7000} FR=6.1
```

```
9234 ####t15 {55.8}[95.5]{53.8}[Ad:As:Asd for pAsd0.99:0.75 iC0:2/5 n7000}    FA=53.8 worse than below
9235 ###
9236 ###t15 {98.1}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.8 iC3:0/5 n7000}    FA=5.5 same as below use this
?? pAsd0.99:0.80 ***
9237 ####t15 {97.8}[95.3]{93.9}[Ad:As:Asd for pAsd0.99:0.8 iC0:0/5 n7000}    FR=6.1
9238 ####t15 {55.7}[95.5]{53.7}[Ad:As:Asd for pAsd0.99:0.8 iC0:2/5 n7000}    FA=53.7
9239 ###
9240 ####t15 {98.1}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.8 iC0:2/5 n7000}    FA=5.5 same as above use this
?? pAsd0.99:0.85
9241 ####t15 {97.8}[95.3]{93.9}[Ad:As:Asd for pAsd0.99:0.85 iC0:0/5 n7000}    FR=6.1 boundary
9242 ####t15 {55.7}[95.5]{53.7}[Ad:As:Asd for pAsd0.99:0.85 iC0:2/5 n7000}    FA=53.7
9243 ###
9244 ####t15 {98.0}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.9 iC3:0/5 n7000}    FA=5.5
9245 ####t15 {97.8}[95.3]{93.8}[Ad:As:Asd for pAsd0.99:0.9 iC3:1/5 n7000}    FR=6.2 worse than above
9246 ####t15 {91.8}[1.1]{1.0}[Ad:As:Asd for pAsd0.99:0.9 iC0:1/5 n7000}    FR=6.2
9247 ####t15 {55.6}[95.5]{53.7}[Ad:As:Asd for pAsd0.99:0.9 iC0:2/5 n7000}    FA=53.7
9248 ###
9249 ####t15 {97.9}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.98 iC3:0/5 n7000}    FA=5.5
9250 ####t15 {97.5}[95.3]{93.5}[Ad:As:Asd for pAsd0.99:0.98 iC0:0/5 n7000}    FR=6.5
9251 ####t15 {97.9}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.97 iC3:0/5 n7000}    FA=5.5
9252 ####t15 {97.7}[95.3]{93.8}[Ad:As:Asd for pAsd0.99:0.97 iC0:0/5 n7000}    FR=6.2
9253 ###
9254 ####t15 {98.0}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.96 iC3:0/5 n7000}    FA=5.5
9255 ####t15 {97.8}[95.3]{93.8}[Ad:As:Asd for pAsd0.99:0.96 iC0:0/5 n7000}    FR=6.2
9256 ###
9257 ####t15 {98.0}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.95 iC0:0/5 n7000}    FA=5.5%
9258 ####t15 {97.8}[95.3]{93.8}[Ad:As:Asd for pAsd0.99:0.95 iC0:0/5 n7000}    FR=6.2%
9259 ###
9260 ###
9261 ####t15 {98.0}[11.7]{11.5}[Ad:As:Asd for pAsd0.98:0.95 iC3:0/5 n7000}    FA=11.5
9262 ####t15 {97.8}[96.1]{94.5}[Ad:As:Asd for pAsd0.98:0.95 iC0:0/5 n7000}    FR=5.5
9263 ###
9264 ####t15 {98.0}[12.7]{12.7}[Ad:As:Asd for pAsd0.95:0.95 iC3:0/5 n7000}    FA=12.7
9265 ####t15 {97.8}[96.3]{94.7}[Ad:As:Asd for pAsd0.95:0.95 iC0:0/5 n7000}    FR=5.3
9266 ###
9267 ####t15 {98.0}[23.9]{23.6}[Ad:As:Asd for pAsd0.7:0.95 iC3:0/5 n7000}    FA=23.6
9268 ####t15 {97.8}[96.8]{95.1}[Ad:As:Asd for pAsd0.7:0.95 iC0:0/5 n7000}    FR=4.9
9269 ###
9270 ####t15 {98.0}[26.0]{25.6}[Ad:As:Asd for pAsd0.5:0.95 iC3:0/5 n7000}    FA=25.6
9271 ####t15 {97.8}[97.4]{95.6}[Ad:As:Asd for pAsd0.5:0.95 iC0:0/5 n7000}    FR=0.44
9272 ###
9273 ####tune pA for rejecting unregistered speaker
9274 ####t15 {99.2}[20.7]{20.7}[Ad:As:Asd for pAsd0.5:0.96 iC3:0/5 n7000}
9275 ####t15 {99.2}[6.3]{6.3}[Ad:As:Asd for pAsd0.6:0.96 iC3:0/5 n7000}
9276 ####t15 {99.2}[3.0]{3.0}[Ad:As:Asd for pAsd0.7:0.96 iC3:0/5 n7000}    FA=3.0%
9277 ####t15 {99.2}[1.2]{1.2}[Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}
9278 ####t15 {99.2}[0.3]{0.3}[Ad:As:Asd for pAsd0.9:0.96 iC3:0/5 n7000}    FA=0.3%
9279 ####t15 {99.2}[0.0]{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC0:0/5 n7000}    FA=0%
9280 ###
9281 ###### tuning pAsd FA=FR base 0.8:0.96
9282 with pAsd=pAs:pAd=0.8:0.96
9283 ####t15 {99.1}[99.9]{99.0}[Ad:As:Asd for pAsd0.8:0.96 iC0:0/5 n7000] #correct registered FR=1%
9284 ####t15 {99.2}[1.2]{1.2}[Ad:As:Asd for pAsd0.8:0.96 iC0:0/5 n7000] #unregistered FA=3%
9285 ####t15 {99.1}[99.0]{99.0}[Ad:As:Asd for pAsd0.7:0.96 iC0:0/5 n7000] #correct registered FR=1%
9286 ####t15 {99.1}[99.9]{99.0}[Ad:As:Asd for pAsd0.85:0.96 iC0:0/5 n7000] #FA=0.7%
9287 ####t15 {99.1}[98.9]{98.9}[Ad:As:Asd for pAsd0.85:0.96 iC0:0/5 n7000]# FR=0.11%
9288 ####incorrect registered
9289 ###
9290 #unregistered (iCs=3;iCd=0-3; # test incorrect unregistered sX ) pAsd=0.8:0.96    for Gibbs
9291 ####t15 {99.0}[1.2]{1.1}[Ad:As:Asd for pAsd0.8:0.96 iC2:0/5 n7000}
9292 ####t15 {91.5}[1.2]{1.1}[Ad:As:Asd for pAsd0.8:0.96 iC2:1/5 n7000}
9293 ####t15 {0.0}[1.4]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:1/5 n7000}
9294 ####t15 {0.0}[1.1]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:2/5 n7000}
9295 #correct registered
9296 ####t15 {99.0}[99.8]{98.8}[Ad:As:Asd for pAsd0.8:0.96 iC2:0/5 n7000}
9297 ####t15 {91.0}[99.9]{90.6}[Ad:As:Asd for pAsd0.8:0.96 iC2:1/5 n7000}
9298 ####t15 {0.2}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:1/5 n7000}
9299 ####t15 {0.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:2/5 n7000}
9300 #correct registered
9301 ####t15 {99.0}[99.8]{98.8}[Ad:As:Asd for pAsd0.8:0.96 iC0:0/5 n7000}
9302 ####t15 {90.7}[99.9]{90.6}[Ad:As:Asd for pAsd0.8:0.96 iC0:1/5 n7000}
9303 ####t15 {0.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC0:2/5 n7000}
9304 ####t15 {0.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC0:3/5 n7000}
9305 ####pAsd0.99:0.80 for Bayes(gibbs:0)
9306 #unregistered
9307 ####t15 {78.2}[5.1]{5.0}[Ad:As:Asd for pAsd0.99:0.8 iC2:0/5 n7000}
9308 ####t15 {78.3}[4.7]{4.5}[Ad:As:Asd for pAsd0.99:0.8 iC3:1/5 n7000}
9309 ####t15 {55.3}[5.2]{2.7}[Ad:As:Asd for pAsd0.99:0.8 iC3:2/5 n7000}
9310 ####t15 {38.5}[5.0]{2.3}[Ad:As:Asd for pAsd0.99:0.8 iC3:3/5 n7000}
9311 #incorrect registered
9312 ####t15 {97.2}[0.0]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC2:0/5 n7000}
```

```
9313 #t15 {76.6}[0.1]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC2:1/5 n7000}
9314 #t15 {58.1}[0.0]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC2:2/5 n7000}
9315 #t15 {36.1}[0.0]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC2:3/5 n7000}
9316 #correct
9317 #t15 {97.7}[95.4]{94.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:0/5 n7000}
9318 #t15 {77.9}[95.4]{75.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:1/5 n7000}
9319 #t15 {55.5}[95.0]{53.2}[Ad:As:Asd for pAsd0.99:0.8 iC0:2/5 n7000}
9320 #t15 {38.6}[95.8]{37.5}[Ad:As:Asd for pAsd0.99:0.8 iC0:3/5 n7000}
9321
9322 ###the following result is obtained with speakerdigit_v5-
9323 ####pAsd0.8:0.96    for Gibbs
9324 ###unregistered (iCs=3;iCd=0-3; # test incorrect unregistered sX )
9325 ####t15 {99.2}[1.2]{1.2}[Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}
9326 ####t15 {91.8}[1.1]{1.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:1/5 n7000}
9327 ####t15 {0.1}[1.2]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC0:2/5 n7000}
9328 ####t15 {0.0}[1.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC0:3/5 n7000}
9329 ####incorrect registered
9330 ####t15 {99.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC2:0/5 n7000}
9331 ####t15 {90.3}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC2:1/5 n7000}
9332 ####t15 {0.2}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC2:2/5 n7000}
9333 ####t15 {0.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.8:0.96 iC2:3/5 n7000}
9334 ####correct registered
9335 ####t15 {99.1}[99.0]{99.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:0/5 n7000}
9336 ####t15 {91.0}[99.9]{90.9}[Ad:As:Asd for pAsd0.8:0.96 iC3:1/5 n7000}
9337 ####t15 {56.1}[5.1]{2.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:2/5 n7000}
9338 ####t15 {37.9}[5.0]{2.0}[Ad:As:Asd for pAsd0.8:0.96 iC3:3/5 n7000}
9339 ####pAsd=0.99:0.80 for Bayes(gibbs:0)
9340 ####unregistered
9341 ####t15 {98.1}[5.5]{5.5}[Ad:As:Asd for pAsd0.99:0.8 iC3:0/5 n7000}
9342 ####t15 {76.2}[5.1]{3.8}[Ad:As:Asd for pAsd0.99:0.8 iC3:1/5 n7000}
9343 ####t15 {56.1}[5.2]{3.0}[Ad:As:Asd for pAsd0.99:0.8 iC3:2/5 n7000}
9344 ####t15 {37.9}[5.0]{2.0}[Ad:As:Asd for pAsd0.99:0.8 iC3:3/5 n7000}
9345 ####incorrect registered
9346 ####t15 {98.1}[0.1]{0.1}[Ad:As:Asd for pAsd0.99:0.8 iC0:0/5 n7000}
9347 ####t15 {76.8}[0.1]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:1/5 n7000}
9348 ####t15 {58.0}[0.0]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:2/5 n7000}
9349 ####t15 {36.4}[0.0]{0.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:3/5 n7000}
9350 ####correct
9351 ####t15 {97.8}[95.3]{93.9}[Ad:As:Asd for pAsd0.99:0.8 iC0:0/5 n7000}
9352 ####t15 {76.1}[95.0]{73.0}[Ad:As:Asd for pAsd0.99:0.8 iC0:1/5 n7000}
9353 ####t15 {55.3}[95.5]{53.7}[Ad:As:Asd for pAsd0.99:0.8 iC0:2/5 n7000}
9354 ####t15 {37.7}[94.7]{36.1}[Ad:As:Asd for pAsd0.99:0.8 iC0:3/5 n7000}
9355
9356
9357 (6) make Figs for ICONIP2014
9358 (3')
9359 pAs=0.99;pAd:pAd=0.80:T=5;TT=15;gibbs=0;                #for BI    pApAd:pA:pAd
9360 pAs=0.80;pAd:pAd=0.96;T=5;TT=15;gibbs=1;                #for GEBI pApAd:pA:pAd
9361 iCs=0;iCd=0; # test correct (registered) speaker
9362 #iCs=1;iCd=0; # test incorrect registered and unregistered sX
9363 iCs=2;iCd=0; # test incorrect registered
9364 iCs=3;iCd=0; # test (incorrect) unregistered sX
9365 cat /dev/null > resultsum.dat
9366 cat /dev/null > psdsum.dat
9367 for sX in 0 1 2 3 4 5 6; do sP=-1;
9368 test=test:5:1000:$[iCs]:${iCd}:5:15;    #test:test->id:test->n:test->riCs:test->t.iCd:th->T
9369 cmd="speakerdigit_v5 fs:../../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX${sX}.y nSD:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$g
2012/12voicedata/allpole/oob4d:-1N100mbas2:300:1.6:1sX${sX}.y nSDD:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:$g
ibbs beta:1 sdd0:0:1::2:3:4:5:6:7:8:9 1T:1 sdT:0:0:1::2:3:4:5:6:7:8:9 ver:-2 pApAd:${pAs}:${pAd} LAR:0:0:-1 t
est:5:1000:$[iCs]:${iCd}:$T:$TT sX:$sX sP:$sP void:0";$cmd > /dev/null
9370 cat tmp/testsd_stat.dat >> resultsum.dat
9371 echo -e "\n" >> resultsum.dat
9372 cat tmp/psd.dat >> psdsum.dat
9373 done
9374 ## calc mean,std1
9375 cat /dev/null > psdstat.dat
9376 echo "#t.pSm,sqrt(pSv0/nS0),sqrt(pSv1/nS1),pDm,sqrt(pDv0/nD0),sqrt(pDv1/nD1)" >> psdstat.dat
9377 for t in 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15; do #for tex
9378 #export t:cat resultsum.dat|awk 'BEGIN{t=ENVIRON["t"];pS=UMS=UMS=pD=UMD=UMD=n=0;} {if($1==t){pS+=$2;
UmS+=($4*$4);UMS0=($5*$5);pD0+=$6;UmD+=($7*$7)/UMD+=($8*$8/;n++;}} END{printf("%d %g %g %g %g %g\n",t,pS/n
,sqrt(UmS/n),sqrt(UMS0/n),pD/n,sqrt(UmD/n), sqrt(UMD/n));}' >> resultp.dat
9379 END{pSm/=n;pDm/=n;for(i=0;i<n;i++;){
9380 eS=pSl[i]-pSm;if(eS<0){pSv0+=(eS*eS);nS0++;}else {pSv1+=(eS*eS);nS1++;}
9381 eD=pDl[i]-pDm;if(eD<0){pDv0+=(eD*eD);nD0++;}else {pDv1+=(eD*eD);nD1++;}}
9382 printf("%d %g %g %g %g %g\n",t,pSm,sqrt(pSv0/nS0),sqrt(pSv1/nS1),pDm,sqrt(pDv0/nD0),sqrt(pDv1/nD1
))}}' >> psdstat.dat
9383
9384 done
9385 #cat /dev/null > resultp.dat
9386 #for t in 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15; do #for tex
9387 #export t:cat resultsum.dat|awk 'BEGIN{t=ENVIRON["t"];pS=UMS=UMS=pD=UMD=UMD=n=0;} END{printf('%d %g %g %g %g\n",t,pS/n
9388 #done
```

```
9389 dl=../result-onsei; if [ ! -e $dl ]; then mkdir $dl;fi
9390 cmd1="cp p$dstat.dat $dl/resultp_iCs${iCs}iCd${iCd}G${gibbs}.txt"
9391 echo $cmd1;$cmd1
9392 ######
9393 #
9394 cd ../result-onsei
9395 gnuplot
9396 #gibbs speaker
9397 #set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.8,1.0);set grid: set xrange [-1.5:15.9];
9398 #set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.8,1.0);set grid: set xrange [-0.5:17.9];
9399 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.8,1.0);set grid: set xrange [-0.5:15.9]; s
9400 plot "resultp_iCs0iCd0G1.txt" using 1:2 t "pG" lt 1, "" using 1:($2-$3):($2+$4) with yerrorbar
s t "" pt 7 lt 1,\
9401 "resultp_iCs2iCd0G1.txt" using ($1+0.2):2 t "pG" lt 1, "" using ($1+0.2):($2-$3):($2+$4) with y
errorbars t "" pt 6 lt 1,\
9402 "resultp_iCs3iCd0G1.txt" using ($1+0.4):2 t "pG" lt 1, "" using ($1+0.4):($2-$3):($2+$4) with y
errorbars t "" pt 4 lt 1
9403 set term tgif;set output "pGs-t.obj";replot;set term X11
9404 !cp pGs-t.obj ~/14iconip/iconip2014speech/draft
9405 #gibbs digits
9406 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.96,1.0);set grid: set xrange [-1.5:15.9];
9407 set yrange [-0.1:1.4];
9408 plot "resultp_iCs0iCd0G1.txt" using 1:5 t "pG" lt 1, "" using 1:($5):($5-$6):($5+$7) with yerrorbar
s t "" pt 7 lt 1,\
9409 "resultp_iCs0iCd1G1.txt" using ($1+0.2):5 t "pG" lt 1, "" using ($1+0.2):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9410 "resultp_iCs0iCd2G1.txt" using ($1+0.4):5 t "pG" lt 1, "" using ($1+0.4):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9411 "resultp_iCs0iCd3G1.txt" using ($1+0.6):5 t "pG" lt 1, "" using ($1+0.6):($5):($5-$6):($5+$7) with y
errorbars t "" pt 4 lt 1
9412 set term tgif;set output "pGd-t.obj";replot;set term X11
9413 !cp pGd-t.obj ~/14iconip/iconip2014speech/draft
9414 #bayes speaker
9415 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.99,1.0);set grid:set xrange [-1.5:15.9]; s
9416 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.99,1.0);set grid: set xrange [-0.5:17.9];
9417 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.99,1.0);set grid: set xrange [-0.5:15.9];
9418 plot "resultp_iCs0iCd0G0.txt" using 1:2 t "pB" lt 1, "" using 1:($2):($2-$3):($2+$4) with yerrorbars
t "" pt 7 lt 1,\
9419 "resultp_iCs2iCd0G0.txt" using ($1+0.2):2 t "pB" lt 1, "" using ($1+0.2):($2-$3):($2+$4) with y
errorbars t "" pt 6 lt 1,\
9420 "resultp_iCs3iCd0G0.txt" using ($1+0.4):2 t "pB" lt 1, "" using ($1+0.4):($2-$3):($2+$4) with y
errorbars t "" pt 4 lt 1
9421 set term tgif;set output "pBs-t.obj";replot;set term X11
9422 !cp pBs-t.obj ~/14iconip/iconip2014speech/draft
9423 #bayes digits
9424 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.99,1.0);set grid: set xrange [-1.5:15.9];
9425 set yrange [-0.1:1.4];
9426 plot "resultp_iCs0iCd0G0.txt" using 1:5 t "pB" lt 1, "" using 1:($5):($5-$6):($5+$7) with yerrorbars
t "" pt 7 lt 1,\
9427 "resultp_iCs0iCd1G0.txt" using ($1+0.2):5 t "pB" lt 1, "" using ($1+0.2):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9428 "resultp_iCs0iCd2G0.txt" using ($1+0.4):5 t "pB" lt 1, "" using ($1+0.4):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9429 "resultp_iCs0iCd3G0.txt" using ($1+0.6):5 t "pB" lt 1, "" using ($1+0.6):($5):($5-$6):($5+$7) with y
errorbars t "" pt 4 lt 1
9430 set term tgif;set output "pBd-t.obj";replot;set term X11
9431 !cp pBd-t.obj ~/14iconip/iconip2014speech/draft
9432 #####orig
9433 cd ../result-onsei
9434 gnuplot
9435
9436 #gibbs speaker
9437 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.8,1.0);set grid: set xrange [-1.5:15.9];
9438 set yrange [-0.1:1.4];
9439 plot "../result-onsei/resultp_iCs2iCd0G1.txt" using 1:2 t "pG" lt 1, "" using 1:($2):($2-$3):($2+$4
) with yerrorbars t "" pt 7 lt 1,\
9440 "../result-onsei/resultp_iCs2iCd0G1.txt" using ($1+0.2):2 t "pG" lt 2, "" using ($1+0.2):($2):($2-$3
):($2+$4) with yerrorbars t "" pt 6 lt 1,\
```

```
9444 "resultp_iCs3iCd0G1.txt" using ($1+0.4):2 t "pG" lt 3, "" using ($1+0.4):($2-$3):($2+$4) with y
errorbars t "" pt 4 lt 1
9445 set term tgif;set output "pGs-t.iCs023iCd0.obj";replot;set term X11
9446 !cp pGs-t.iCs023iCd0.obj ~/14iconip/iconip2014speech/draft
9447 #gibbs digits
9448 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.96,1.0);set grid;set xrange [-1.5:15.9]; s
et yrange [-0.1:1.4];
9449 plot "resultp_iCs0iCd0G1.txt" using 1:5 t "pG" lt 1, "" using 1:($5):($5-$6):($5+$7) with yerrorbars
t "" pt 7 lt 1,\
9450 "resultp_iCs0iCd1G1.txt" using ($1+0.2):5 t "pG" lt 2, "" using ($1+0.2):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9451 "resultp_iCs0iCd2G1.txt" using ($1+0.4):5 t "pG" lt 3, "" using ($1+0.4):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9452 "resultp_iCs0iCd3G1.txt" using ($1+0.6):5 t "pG" lt 4, "" using ($1+0.6):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1
9453 set term tgif;set output "pGd-t.iCs0iCd0123.obj";replot;set term X11
9454 !cp pGd-t.iCs0iCd0123.obj ~/14iconip/iconip2014speech/draft
9455 #bayes speaker
9456 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.99,1.0);set grid;set xrange [-1.5:15.9]; s
et yrange [-0.1:1.4];
9457 plot "resultp_iCs0iCd0G0.txt" using 1:2 t "pB" lt 1, "" using 1:($2):($2-$3):($2+$4) with yerrorbars
t "" pt 7 lt 1,\
9458 "resultp_iCs2iCd0G0.txt" using ($1+0.2):2 t "pB" lt 2, "" using ($1+0.2):($2-$3):($2+$4) with y
errorbars t "" pt 6 lt 1,\
9459 "resultp_iCs3iCd0G0.txt" using ($1+0.4):2 t "pB" lt 3, "" using ($1+0.4):($2-$3):($2+$4) with y
errorbars t "" pt 4 lt 1
9460 set term tgif;set output "pBs-t.iCs023iCd0.obj";replot;set term X11
9461 !cp pBs-t.iCs023iCd0.obj ~/14iconip/iconip2014speech/draft
9462 #bayes digits
9463 set style data l;set xtics (0,5,10,15);set ytics (0,0.5,0.8,1.0);set grid;set xrange [-1.5:15.9]; s
et yrange [-0.1:1.4];
9464 plot "resultp_iCs0iCd0G0.txt" using 1:5 t "pB" lt 1, "" using 1:($5):($5-$6):($5+$7) with yerrorbars
t "" pt 7 lt 1,\
9465 "resultp_iCs0iCd1G0.txt" using ($1+0.2):5 t "pB" lt 2, "" using ($1+0.2):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9466 "resultp_iCs0iCd2G0.txt" using ($1+0.4):5 t "pB" lt 3, "" using ($1+0.4):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1,\
9467 "resultp_iCs0iCd3G0.txt" using ($1+0.6):5 t "pB" lt 4, "" using ($1+0.6):($5):($5-$6):($5+$7) with y
errorbars t "" pt 6 lt 1
9468 set term tgif;set output "pBd-t.iCs0iCd0123.obj";replot;set term X11
9469 !cp pBd-t.iCs0iCd0123.obj ~/14iconip/iconip2014speech/draft
9470
9471 ####################################examination with pAsd=pAs:pAd=0.95:0.96
9472 #unregistered
9473 #t15 {99.:}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC3:0/5 n7000] FA=0%
9474 #t15 {91.8}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC3:1/5 n7000]
9475 #t15 {0.1}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC3:2/5 n7000]
9476 #t15 {0.0}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC3:3/5 n7000]
9477 #incorrect registered
9478 #t15 {99.:}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC2:0/5 n7000]
9479 #t15 {90.3}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC2:1/5 n7000]
9480 #t15 {0.2}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC2:2/5 n7000]
9481 #t15 {0.0}{0.0}{0.0}[Ad:As:Asd for pAsd0.95:0.96 iC2:3/5 n7000]
9482 #correct registered
9483 #unregistered Bayes(gibbs:0) with pAsd0.95:0.96
9484 #t15 {99.1}{97.7}[96.9][Ad:As:Asd for pAsd0.95:0.96 iC0:0/5 n7000] FR =3.1%
9485 #t15 {91.0}{89.7}[89.7][Ad:As:Asd for pAsd0.95:0.96 iC0:1/5 n7000] FA=89.7%
9486 #t15 {0.2}{98.2}[0.1][Ad:As:Asd for pAsd0.95:0.96 iC0:2/5 n7000] FA=0.1%
9487 #t15 {0.0}{97.7}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC0:3/5 n7000]
9488 ####################################
9489 #unregistered Bayes(gibbs:0) with pAsd0.95:0.96
9490 #t15 {98.0}{12.9}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC2:0/5 n7000]
9491 #t15 {75.8}{12.3}[9.1][Ad:As:Asd for pAsd0.95:0.96 iC2:1/5 n7000]
9492 #t15 {56.7}{12.7}[7.0][Ad:As:Asd for pAsd0.95:0.96 iC2:2/5 n7000]
9493 #t15 {35.5}{12.4}[4.8][Ad:As:Asd for pAsd0.95:0.96 iC2:3/5 n7000]
9494 #incorrect registered Bayes(gibbs:0)
9495 #t15 {98.1}{0.1}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC2:0/5 n7000]
9496 #t15 {76.3}{0.2}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC2:1/5 n7000]
9497 #t15 {56.7}{0.2}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC2:2/5 n7000]
9498 #t15 {34.1}{0.1}[0.0][Ad:As:Asd for pAsd0.95:0.96 iC2:3/5 n7000]
9499 #correct registered Bayes(gibbs:0)
9500 #t15 {97.8}{96.3}[94.7][Ad:As:Asd for pAsd0.95:0.96 iC0:0/5 n7000] FR=5.3%
9501 #t15 {75.6}{95.8}[73.1][Ad:As:Asd for pAsd0.95:0.96 iC0:1/5 n7000] FA=73.1%
9502 #t15 {54.5}{96.3}[52.9][Ad:As:Asd for pAsd0.95:0.96 iC0:2/5 n7000] FA=52.9%
9503 #t15 {35.3}{95.5}[33.8][Ad:As:Asd for pAsd0.95:0.96 iC0:3/5 n7000]
9504 ####################################
9505 #worst case  unregistered speaker
9506 #
9507 tmp/testsd.dat
9508 n343t0 0.01000 0.99000 #t,pGC,pGiC
9509 xOxxxxkC0.54545 n343t1 0.01198 0.98802 #t,pGC,pGiC sdP2:2 sdTl:2 lT2 iCdT0(A1R0S0)
9510 xOxxxxkC0.99854 n343t2 0.74253 0.25747 #t,pGC,pGiC sdP2:4 sdTl:4 lT2 iCdT0(A2R0S0)
```

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9511 xXxxxxLC0.99854 n343t3  0.94701 0.05299 #t,pGC,pGiC sdP2:1 sdT1:1 1T2 iCdT0(A3R0S0)
9512 xXxxxxLC0.99854 n343t4  0.97802 0.02198 #t,pGC,pGiC sdP2:0 sdT1:1 1T2 iCdT0(A4R0S0)
9513 xXxxxxLC0.54545 n343t5  0.95575 0.04425 #t,pGC,pGiC sdP2:0 sdT1:0 1T2 iCdT0(A5R0S0)
9514 xXxxxxLC0.99854 n343t6  0.97464 0.02536 #t,pGC,pGiC sdP2:5 sdT1:5 1T2 iCdT0(A6R0S0)
9515 xXxxxxLC0.00862 n343t7  0.92055 0.07945 #t,pGC,pGiC sdP2:6 sdT1:6 1T2 iCdT0(A7R0S0)
9516 xXxxxxLC0.54545 n343t8  0.89720 0.10280 #t,pGC,pGiC sdP2:0 sdT1:0 1T2 iCdT0(A8R0S0)
9517 xXxxxxLC0.99854 n343t9  0.93410 0.06590 #t,pGC,pGiC sdP2:4 sdT1:4 1T2 iCdT0(A9R0S0)
9518 xXxxxxLC0.99854 n343t10 0.95432 0.04568 #t,pGC,pGiC sdP2:4 sdT1:4 1T2 iCdT0(A10R0S0)
9519 xXxxxxLC0.99854 n343t11 0.96633 0.03367 #t,pGC,pGiC sdP2:4 sdT1:4 1T2 iCdT0(A11R0S0)
9520 xXxxxxLC0.54545 n343t12 0.96657 0.03343 #t,pGC,pGiC sdP2:2 sdT1:2 1T2 iCdT0(A12R0S0)
9521 xXxxxxLC0.99854 n343t13 0.96633 0.03367 #t,pGC,pGiC sdP2:5 sdT1:5 1T2 iCdT0(A13R0S0)
9522 xXxxxxLC0.54545 n343t14 0.95812 0.04188 #t,pGC,pGiC sdP2:7 sdT1:7 1T2 iCdT0(A14R0S0)
9523 xXxxxxLC0.99854 n343t15 0.96633 0.03367 #t,pGC,pGiC sdP2:5 sdT1:5 1T2 iCdT0(A15R0S0)
6>pA0.900000 method->id=1
9524
9525 xXxxxOxxLC0.99821 n179t15 0.90756 0.09244 #t,pGC,pGiC sdP4:8 sdT0:8 1T9 iCdT0(A15R0S0) Accept! pGC0.96
9526 xxxOxxLC0.99821 n418t15 0.93690 0.06310 #t,pGC,pGiC sdP4:8 sdT0:8 1T9 iCdT0(A15R0S0) Accept! pGC0.90
8>pA0.900000 method->id=1
9527 xxxOxxLC0.99821 n884t15 0.90821 0.09179 #t,pGC,pGiC sdP4:8 sdT0:8 1T9 iCdT0(A15R0S0) Accept! pGC0.93
7>pA0.900000 method->id=1
9528 xxxOxxOLC0.52899 n933t15 0.93736 0.06264 #t,pGC,pGiC sdP4:8 sdT0:8 1T6 iCdT0(A15R0S0) Accept! pGC0.93
8>pA0.900000 method->id=1
9529
9530 xxxOxxOLC0.99854 n343t15 0.96633 0.03367 #t,pGC,pGiC sdP2:5 sdT1:5 1T2 iCdT0(A15R0S0) Accept! pGC0.96
6>pA0.900000 method->id=1 XXXX sX=1
9531 OxxxxxLC0.99838 n551t15 0.93668 0.06332 #t,pGC,pGiC sdP0:15 sdT1:5 1T4 iCdT0(A15R0S0) Accept! pGC0.93
7>pA0.900000 method->id=1
9532 xxxOxxLC0.25641 n888t15 0.90931 0.09069 #t,pGC,pGiC sdP0:1 sdT1:1 1T6 iCdT0(A15R0S0) Accept! pGC0.90
9>pA0.900000 method->id=1
9533
9534 xxxxxOLC0.99865 n165t15 0.90139 0.09861 #t,pGC,pGiC sdP6:1 sdT2:1 1T7 iCdT0(A15R0S0) Accept! pGC0.90
1>pA0.900000 method->id=1
9535 xxxxxLC0.33333 n171t15 0.91275 0.08725 #t,pGC,pGiC sdP5:3 sdT2:3 1T2 iCdT0(A15R0S0) Accept! pGC0.91
3>pA0.900000 method->id=1
9536 xxxxxOLC0.99865 n241t15 0.96319 0.03681 #t,pGC,pGiC sdP6:5 sdT2:5 1T4 iCdT0(A15R0S0) Accept! pGC0.96
3>pA0.900000 method->id=1
9537 xxxxxOLC0.99865 n544t15 0.94908 0.05092 #t,pGC,pGiC sdP6:7 sdT2:7 1T4 iCdT0(A15R0S0) Accept! pGC0.94
9>pA0.900000 method->id=1
9538 xxxxOXLC0.01571 n833t15 0.90508 0.09492 #t,pGC,pGiC sdP6:9 sdT2:9 1T7 iCdT0(A15R0S0) Accept! pGC0.90
5>pA0.900000 method->id=1
9539
9540 xXxxxxLC0.41667 n95t15 0.91614 0.08386 #t,pGC,pGiC sdP1:0 sdT4:0 1T3 iCdT0(A15R0S0) Accept! pGC0.916
>pA0.900000 method->id=1
9541 OxxxxxLC0.99896 n126t15 0.91188 0.08812 #t,pGC,pGiC sdP0:0 sdT4:0 1T0 iCdT0(A15R0S0) Accept! pGC0.91
2>pA0.900000 method->id=1
9542 OxxxxxLC0.99896 n389t15 0.91591 0.08409 #t,pGC,pGiC sdP0:4 sdT4:4 1T0 iCdT0(A15R0S0) Accept! pGC0.91
6>pA0.900000 method->id=1
9543 OxxxxxLC0.99896 n538t15 0.95429 0.04571 #t,pGC,pGiC sdP0:4 sdT4:4 1T0 iCdT0(A15R0S0) Accept! pGC0.95
4>pA0.900000 method->id=1
9544 OxxxxxOLC0.99896 n941t15 0.94626 0.05374 #t,pGC,pGiC sdP0:6 sdT4:6 1T0 iCdT0(A15R0S0) Accept! pGC0.94
6>pA0.900000 method->id=1
9545
9546 xxOxxxLC0.99928 n354t15 0.91709 0.08291 #t,pGC,pGiC sdP2:2 sdT5:2 1T6 iCdT0(A15R0S0) Accept! pGC0.91
7>pA0.900000 method->id=1
9547
9548 xxOxxxLC0.61644 n354t15 0.90875 0.09125 #t,pGC,pGiC sdP2:2 sdT6:2 1T6 iCdT0(A15R0S0) Accept! pGC0.90
9>pA0.900000 method->id=1
9549 xxxxxLC0.99893 n786t15 0.91303 0.08697 #t,pGC,pGiC sdP5:0 sdT6:0 1T5 iCdT0(A15R0S0) Accept! pGC0.91
3>pA0.900000 method->id=1
9550 xxxxxOLC0.99893 n954t15 0.94445 0.05555 #t,pGC,pGiC sdP5:9 sdT6:9 1T5 iCdT0(A15R0S0) Accept! pGC0.94
4>pA0.900000 method->id=1
9551 ###############################
9552 #(incorrect) unregistered Bayes
9553 #(incorrect) unregistered Bayes
9554 #t15 Asd25.36 As26.07 Ad97.76 n7000 pAsd0.50:0.96 iC3:0/5
9555 #t15 Asd20.91 As25.81 Ad80.50 n7000 pAsd0.50:0.96 iC3:1/5
9556 #t15 Asd14.97 As25.87 Ad56.30 n7000 pAsd0.50:0.96 iC3:2/5
9557 #t15 Asd0.93 As26.01 Ad35.07 n7000 pAsd0.50:0.96 iC3:3/5
9558 #incorrect registered Bayes
9559 #t15 Asd0.39 As0.44 Ad97.76 n7000 pAsd0.50:0.96 iC2:0/5
9560 #t15 Asd0.29 As0.51 Ad77.39 n7000 pAsd0.50:0.96 iC2:1/5
9561 #t15 Asd0.20 As0.61 Ad55.71 n7000 pAsd0.50:0.96 iC2:2/5
9562 #t15 Asd0.10 As0.63 Ad35.91 n7000 pAsd0.50:0.96 iC2:3/5
9563 #correct registerd Bayes
9564 #t15 Asd5.16 As96.16 Ad97.60 n7000 pAsd0.50:0.96 iC0:0/5
9565 #t15 Asd78.26 As97.17 Ad79.90 n7000 pAsd0.50:0.96 iC0:1/5
9566 #t15 Asd54.10 As96.70 Ad55.71 n7000 pAsd0.50:0.96 iC0:2/5
9567 #t15 Asd33.63 As96.66 Ad34.57 n7000 pAsd0.50:0.96 iC0:3/5
9568 #incorrect unregistered speaker
9569 #incorrect unregistered speaker
9570 #t15 Asd21.09 As21.39 Ad98.77 n7000 pAsd0.50:0.96 iC3:0/5
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9571 #t15 Asd19.96 As21.66 Ad92.00 n7000 pAsd0.50:0.96 iC3:1/5
9572 #t15 Asd0.01 As20.71 Ad0.10 n7000 pAsd0.50:0.96 iC3:2/5
9573 #t15 Asd0.00 As20.61 Ad0.00 n7000 pAsd0.50:0.96 iC3:3/5
9574 #incorrect registered speaker
9575 #t15 Asd0.00 As0.00 Ad99.39 n7000 pAsd0.50:0.96 iC2:0/5
9576 #t15 Asd0.01 As0.03 Ad91.29 n7000 pAsd0.50:0.96 iC2:1/5
9577 #t15 Asd0.00 As0.06 n7000 pAsd0.50:0.96 iC2:2/5
9578 #t15 Asd0.00 As0.00 Ad0.00 n7000 pAsd0.50:0.96 iC2:3/5
9579 #correct registered speaker
9580 #t15 Asd98.86 As99.99 Ad98.87 n7000 pAsd0.50:0.96 iC0:0/5
9581 #t15 Asd90.53 As99.97 Ad90.56 n7000 pAsd0.50:0.96 iC0:1/5
9582 #t15 Asd0.17 As100.00 Ad0.17 n7000 pAsd0.50:0.96 iC0:2/5
9583 #t15 Asd0.00 As100.00 Ad0.00 n7000 pAsd0.50:0.96 iC0:3/5
9584 #correct registered speaker sX=-1
9585 #t15 Asd98.20 As99.90 Ad98.20 n1000 pAsd0.50:0.96 iC0:0/5
9586 #t15 Asd88.30 As99.90 Ad88.30 n1000 pAsd0.50:0.96 iC0:1/5
9587 #t15 Asd0.20 As100.00 Ad0.20 n1000 pAsd0.50:0.96 iC0:2/5
9588 #t15 Asd0.00 As100.00 Ad0.00 n1000 pAsd0.50:0.96 iC0:3/5
9589 #incorrect registered speaker sX=-1
9590 #t15 Asd0.00 As0.00 Ad98.50 n1000 pAsd0.50:0.96 iC2:0/5
9591 #t15 Asd0.00 As0.00 Ad86.90 n1000 pAsd0.50:0.96 iC2:1/5
9592 #t15 Asd0.00 As0.00 Ad0.10 n1000 pAsd0.50:0.96 iC2:2/5
9593 #t15 Asd0.00 As0.00 Ad0.00 n1000 pAsd0.50:0.96 iC2:3/5
9594
9595 ##################################
9596 ##################################
9597 cat ../../2012/12voicedata/allpole/oob4di-1N40mbas2:100:1.6:1sX-1.ystat
9598 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole di-1 N:40 sX:-1
9599 0.986 0.987 0.013 0.014 3.85e-05  700 0 #TP.TN,FP,FN,ERR,n,txm0
9600 0.929 0.994 0.006 0.071 1.11e-04  700 1 #TP.TN,FP,FN,ERR,n,txm1
9601 0.971 0.989 0.011 0.029 5.669e-05 700 2 #TP.TN,FP,FN,ERR,n,txm2
9602 0.986 0.984 0.016 0.014 4.308e-05 700 3 #TP.TN,FP,FN,ERR,n,txm3
9603 0.914 0.983 0.017 0.086 1.474e-04 700 4 #TP.TN,FP,FN,ERR,n,txm4
9604 1.000 0.995 0.005 0.000 6.803e-06 700 5 #TP.TN,FP,FN,ERR,n,txm5
9605 0.843 0.986 0.014 0.157 2.449e-04 700 6 #TP.TN,FP,FN,ERR,n,txm6
9606 0.900 0.990 0.010 0.100 1.565e-04 700 7 #TP.TN,FP,FN,ERR,n,txm7
9607 0.943 0.981 0.019 0.057 1.088e-04 700 8 #TP.TN,FP,FN,ERR,n,txm8
9608 0.957 1.000 0.000 0.043 6.122e-05 700 9 #TP.TN,FP,FN,ERR,n,txm9
9609 cat ../../2012/12voicedata/allpole/oob4di-1N40mbas2:100:1.6:1sX0.ystat
9610 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole di-1 N:40 sX:0
9611 0.943 1.000 0.000 0.057 8.163e-05 700 0 #TP.TN,FP,FN,ERR,n,txm0 sX0(TP0.900 TN1.000 TN0.978 ER1.000e-03 n100
9612 0.929 0.998 0.002 0.071 1.043e-04 700 1 #TP.TN,FP,FN,ERR,n,txm1 sX0(TP0.900 TN1.000 TN0.978 ER1.000e-03 n100
9613 1.000 0.989 0.011 0.000 1.587e-04 700 2 #TP.TN,FP,FN,ERR,n,txm2 sX0(TP0.900 TN0.978 ER2.222e-04 n100
9614 0.929 0.987 0.013 0.071 1.202e-04 700 3 #TP.TN,FP,FN,ERR,n,txm3 sX0(TP1.000 TN0.978 ER1.222e-03 n100
9615 0.943 0.990 0.010 0.057 9.524e-05 700 4 #TP.TN,FP,FN,ERR,n,txm4 sX0(TP0.900 TN0.978 ER1.222e-03 n100
9616 1.000 1.000 0.000 0.000 0.000e+00 700 5 #TP.TN,FP,FN,ERR,n,txm5 sX0(TP1.000 TN1.000 ER0.000e+00 n100
9617 0.929 0.989 0.011 0.071 1.179e-04 700 6 #TP.TN,FP,FN,ERR,n,txm6 sX0(TP1.000 ER0.000e+00 n100
9618 0.943 0.989 0.011 0.057 9.751e-05 700 7 #TP.TN,FP,FN,ERR,n,txm7 sX0(TP1.000 TN1.000 ER1.111e-04 n100
9619 0.929 0.992 0.008 0.071 1.134e-04 700 8 #TP.TN,FP,FN,ERR,n,txm8 sX0(TP1.000 TN0.989 ER1.111e-04 n100
9620 1.000 0.998 0.002 0.000 2.268e-06 700 9 #TP.TN,FP,FN,ERR,n,txm9 sX0(TP1.000 TN0.989 ER1.111e-03 n100
9621 cat ../../2012/12voicedata/allpole/oob4di-1N40mbas2:100:1.6:1sXI.ystat
9622 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole di-1 N:40 sX:1
9623 0.957 0.997 0.003 0.043 6.576e-05 700 0 #TP.TN,FP,FN,ERR,n,txm0 sXI(TP1.000 TN1.000 TN0.978 ER1.000e-03 n100
9624 0.986 0.995 0.005 0.014 2.721e-05 700 1 #TP.TN,FP,FN,ERR,n,txm1 sXI(TP1.000 TN0.989 ER1.111e-04 n100
9625 0.957 0.987 0.013 0.043 7.937e-05 700 2 #TP.TN,FP,FN,ERR,n,txm2 sXI(TP1.000 TN0.978 ER1.222e-03 n100
9626 0.929 0.994 0.006 0.071 1.111e-04 700 3 #TP.TN,FP,FN,ERR,n,txm3 sXI(TP1.000 TN1.000 ER1.000e-03 n100
9627 0.971 0.987 0.013 0.029 5.896e-05 700 4 #TP.TN,FP,FN,ERR,n,txm4 sXI(TP0.900 TN1.000 ER0.000e+00 n100
9628 0.971 1.000 0.000 0.029 4.082e-05 700 5 #TP.TN,FP,FN,ERR,n,txm5 sXI(TP1.000 TN1.000 ER0.000e+00 n100
9629 0.900 0.995 0.005 0.100 1.497e-04 700 6 #TP.TN,FP,FN,ERR,n,txm6 sXI(TP1.000 ER1.000e-03 n100
9630 0.986 0.986 0.014 0.014 4.082e-05 700 7 #TP.TN,FP,FN,ERR,n,txm7 sXI(TP1.000 TN0.978 ER2.222e-04 n100
9631 0.971 0.989 0.011 0.029 5.669e-05 700 8 #TP.TN,FP,FN,ERR,n,txm8 sXI(TP0.900 TN0.989 ER1.111e-03 n100
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   ) 9632 0.986 0.995 0.005 0.014 2.721e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX1(TP1.000 TN1.000 ER0.000e+00 n100
     9633 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX2.ystat
     9634 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:2
     9635 0.986 0.997 0.003 0.014 2.494e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX2(TP1.000 TN0.989 ER1.111e-04 n100
   ) 9636 0.914 0.997 0.003 0.086 1.270e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX2(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9637 1.000 0.987 0.013 0.000 1.814e-05 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX2(TP0.900 TN0.978 ER2.222e-04 n100
   ) 9638 0.900 0.994 0.006 0.100 1.519e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX2(TP0.900 TN0.989 ER1.111e-03 n100
   ) 9639 0.900 0.986 0.014 0.100 1.633e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX2(TP0.800 TN0.978 ER2.222e-03 n100
   ) 9640 1.000 0.997 0.003 0.000 4.535e-06 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX2(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9641 0.929 0.994 0.006 0.071 1.111e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX2(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9642 0.929 0.983 0.017 0.071 1.270e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX2(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9643 0.914 0.998 0.002 0.086 1.247e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX2(TP0.800 TN1.000 ER2.000e-03 n100
   ) 9644 1.000 0.994 0.006 0.000 9.070e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX2(TP0.900 TN1.000 ER1.111e-03 n100
     9645 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX3.ystat
     9646 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:3
     9647 0.986 0.998 0.002 0.014 2.268e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX3(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9648 0.900 0.997 0.003 0.100 1.474e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX3(TP0.900 TN0.967 ER1.333e-03 n100
   ) 9649 0.943 0.986 0.014 0.057 1.020e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX3(TP0.900 TN0.978 ER1.222e-03 n100
   ) 9650 0.943 0.989 0.011 0.057 9.751e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX3(TP0.900 TN1.000 ER1.111e-03 n100
   ) 9651 0.829 0.992 0.008 0.171 2.562e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX3(TP0.800 TN1.000 ER2.000e-03 n100
   ) 9652 0.986 0.998 0.002 0.014 2.268e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX3(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9653 0.900 0.984 0.016 0.100 1.655e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX3(TP0.900 TN0.967 ER1.333e-03 n100
   ) 9654 0.914 0.986 0.014 0.086 1.429e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX3(TP0.900 TN0.956 ER1.444e-03 n100
   ) 9655 0.971 0.997 0.003 0.029 4.535e-05 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX3(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9656 0.986 0.998 0.002 0.014 2.268e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX3(TP1.000 TN0.978 ER1.222e-03 n100
     9657 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX4.ystat
     9658 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:4
     9659 0.957 0.997 0.003 0.043 6.576e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX4(TP1.000 TN0.989 ER1.111e-04 n100
   ) 9660 0.914 0.992 0.008 0.086 1.338e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX4(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9661 0.971 0.992 0.008 0.029 5.215e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX4(TP0.900 TN0.989 ER1.111e-04 n100
   ) 9662 0.943 0.987 0.013 0.057 9.977e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX4(TP0.900 TN0.989 ER1.111e-04 n100
   ) 9663 0.900 0.995 0.005 0.100 1.497e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX4(TP0.900 TN0.989 ER1.111e-04 n100
   ) 9664 0.986 1.000 0.000 0.014 2.041e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX4(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9665 0.986 0.990 0.010 0.014 3.401e-05 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX4(TP0.900 TN0.989 ER1.111e-04 n100
   ) 9666 0.957 0.984 0.016 0.043 8.390e-05 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX4(TP0.900 TN0.956 ER1.444e-03 n100
   ) 9667 0.943 0.989 0.011 0.057 9.751e-05 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX4(TP0.900 TN0.989 ER1.111e-03 n100
   ) 9668 1.000 0.995 0.005 0.000 6.803e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX4(TP0.900 TN0.989 ER1.111e-03 n100
     9669 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX5.ystat
     9670 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:5
     9671 0.971 0.981 0.019 0.029 6.803e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX5(TP1.000 TN0.989 ER1.111e-04 n100
   ) 9672 0.929 0.995 0.005 0.071 1.088e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX5(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9673 0.957 0.994 0.006 0.043 7.029e-05 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX5(TP0.900 TN0.989 ER1.111e-03 n100
   ) 9674 0.886 0.990 0.010 0.114 1.769e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX5(TP0.900 TN0.989 ER1.111e-03 n100
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   ) 9675 0.857 0.983 0.017 0.143 2.290e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX5(TP0.900 TN0.978 ER1.222e-03 n100
   ) 9676 1.000 0.989 0.011 0.000 1.587e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX5(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9677 0.957 0.975 0.025 0.043 9.751e-05 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX5(TP0.900 TN0.967 ER3.333e-04 n100
   ) 9678 0.929 0.970 0.030 0.071 1.451e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX5(TP0.900 TN0.933 ER1.667e-03 n100
   ) 9679 0.943 0.994 0.006 0.057 9.070e-05 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX5(TP0.900 TN0.989 ER1.111e-03 n100
   ) 9680 1.000 0.997 0.003 0.000 4.535e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX5(TP1.000 TN1.000 ER0.000e+00 n100
     9681 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX6.ystat
     9682 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:6
     9683 0.986 0.983 0.017 0.014 4.535e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX6(TP1.000 TN0.967 ER3.333e-04 n100
   ) 9684 0.943 0.998 0.002 0.057 8.390e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX6(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9685 0.914 0.997 0.003 0.086 1.270e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX6(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9686 0.900 0.986 0.014 0.100 1.633e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX6(TP0.900 TN0.978 ER1.222e-03 n100
   ) 9687 0.871 0.983 0.017 0.129 2.086e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX6(TP0.900 TN0.967 ER1.333e-03 n100
   ) 9688 0.986 0.997 0.003 0.014 2.494e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX6(TP1.000 TN1.000 ER0.000e+00 n100
   ) 9689 0.914 0.983 0.017 0.086 1.474e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX6(TP0.900 TN0.978 ER1.222e-03 n100
   ) 9690 0.914 0.960 0.040 0.086 1.791e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX6(TP0.900 TN0.922 ER1.778e-03 n100
   ) 9691 0.914 0.983 0.017 0.086 1.474e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX6(TP0.900 TN1.000 ER1.000e-03 n100
   ) 9692 1.000 0.998 0.002 0.000 2.268e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX6(TP1.000 TN1.000 ER0.000e+00 n100
     9693 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:100:1.6:1sX7.ystat
     9694 #oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
txi:i10 k:36 mbas:2:100:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:7
     9695 0.986 0.987 0.013 0.014 3.855e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9696 0.929 0.994 0.006 0.071 1.111e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9697 0.971 0.989 0.011 0.029 5.669e-05 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9698 0.986 0.984 0.016 0.014 4.300e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9699 0.914 0.983 0.017 0.086 1.474e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9700 1.000 0.995 0.005 0.000 6.803e-06 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9701 0.843 0.986 0.014 0.157 2.449e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9702 0.900 0.990 0.010 0.100 1.565e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9703 0.943 0.981 0.019 0.057 1.088e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX7(TP0.000 TN0.000 ER-nan n0)
   ) 9704 0.957 1.000 0.000 0.043 6.122e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX7(TP0.000 TN0.000 ER-nan n0)
     9705 )
     9706
     9707 20140501 at mesaho
     9708 (1)a=1.6:b=300:N=40
     9709 cmd="oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:k
yu ntxi:i10 k:36 mbas:2:${b}:${a}:1 dir:../../2012/12voicedata/allpole s:-1 N:${N} sX:${sX}"
     9710 echo $cmd;$cmd
     9711
     9712 #cmd1="cat ../../2012/12voicedata/allpole/oob4s:-1N$[N]mbas2:${b}:1sX${sX}.ystat"
     9713 #cmd1="cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX-1.ystat"
     9714 echo $cmd1;$cmd1
     9715 done
     9716 (2)
     9717 #see 2013/02/27
     9718 for sX in -1 0 1 2 3 4 5 6 7; do
     9719 a=1.6:b=300:N=40
     9720 cmd="oob4speakerdigit+sX sp:fhs:mkk:mko:tmnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:k
yu ntxi:i10 k:36 mbas:2:${b}:${a}:1 dir:../../2012/12voicedata/allpole d:-1 N:${N} sX:$sX"
     9721 echo $cmd;$cmd
     9722 cmd1="cat ../../2012/12voicedata/allpole/oob4d:-1N$[N]mbas2:${b}:1sX${sX}.ystat"
     9723 echo $cmd1;$cmd1
     9724 done
     9725 (3)
     9726
     9727 #sXt=sX+${sX}:1: # test registered and unregistered sX for test speaker iCS=1
     9728 #sXt=sX+${sX}:0: # test registered only:                                 iCS=2
     9729 #sXt=sX+${sX}:-1: # test unregistered only:                              iCS=3
     9730 sX=0;
     9731 pA=0.5;pAd=0.96;                #pApAdT:th->pA:th->pAd:th->T (#LAR:th->LA:th->LR:th->LAn likelihood for c
orrect digit;noeffect)
     9732 iCS=0;iCd=0; # test correct (registered) speaker
     9733 iCS=1;iCd=0; # test incorrect registered and unregistered sX
     9734 iCS=2;iCd=0; # test incorrect registered
```

```
9735  iCs=3;iCd=0;  # test incorrect unregistered sX
9736  #iCs=i;iCd=i;
9737  test=test:5:1000:${iCd}:5:15;   #test:test->id:test->n:test->riCs:test->t_iCd:th->T
9738  ##
9739  cmd="speakerdigit_v3 fs:.../2012/12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:lsX${sX},y fd:.../
2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:lsX${sX},y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 b
eta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAd:${pA} LAR:0:0:-1 test:5:1
000:${iCs}:${iCd}:5:15 sX:sX void:0";$cmd
9740
9741  #incorrect unregistered
9742  sX=0/speakerdigit_v3 fd:.../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:lsX${sX},y nSDL:7:10
:10 pmin:0.01 ytm:1:0.9:1000 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
pApAd:0.5:0.96 LAR:0:0:-1 test:5:1000:3:0:5:15  sX:$sX void:0
9743  :0:-1 iCT3:0/5 mid2v-2 dA0 pd0.464U0.088Um0.045Up0.164U0.407-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:FR1000:SA0 pApAd0.5:0.96 LAR0
9744  :0:-1 iCT3:0/5 mid2v-2 dA0 pd0.464U0.088Um0.045Up0.164Um0.088Up0.164 sX=0
9745  :0:-1 iCT3:0/5 ps0.662U0.135Um0.130Up0.142LC0.360-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:FR1000:SA0 pApAd0.5:0.96 LAR
...
```

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9864 ) 0.914 0.984 0.016 0.086 1.451e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX0(TP0.983 TN0.985 ER5.247e-05 n600
9865 ) 0.857 0.987 0.013 0.143 2.222e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX0(TP1.000 TN0.987 ER2.160e-05 n600
9866 ) 0.814 0.990 0.010 0.186 2.789e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX0(TP0.950 TN0.993 ER9.568e-05 n600
9867 ) 0.857 0.995 0.005 0.143 2.109e-04 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX0(TP1.000 TN0.994 ER9.259e-06 n600
9868 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX1.ystat
9869 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:1
9870 ) 0.814 0.990 0.010 0.186 2.789e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX1(TP0.950 TN0.998 ER8.642e-05 n600
9871 ) 0.843 0.995 0.005 0.157 2.313e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX1(TP0.967 TN0.996 ER6.173e-05 n600
9872 ) 0.914 0.984 0.016 0.086 1.451e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX1(TP0.917 TN0.996 ER1.451e-04 n600
9873 ) 0.729 0.992 0.008 0.271 3.991e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX1(TP0.850 TN0.991 ER2.654e-04 n600
9874 ) 0.843 0.990 0.010 0.157 2.381e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX1(TP0.933 TN0.989 ER1.296e-04 n600
9875 ) 0.943 0.994 0.006 0.057 9.070e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX1(TP0.983 TN0.998 ER3.086e-05 n600
9876 ) 0.829 0.975 0.025 0.171 2.812e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX1(TP0.967 TN0.976 ER9.568e-05 n600
9877 ) 0.929 0.965 0.035 0.071 1.519e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX1(TP0.967 TN0.985 ER8.025e-05 n600
9878 ) 0.900 0.990 0.010 0.100 1.565e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX1(TP0.983 TN0.989 ER4.630e-05 n600
9879 ) 1.000 0.992 0.008 0.000 1.134e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX1(TP1.000 TN0.991 ER1.543e-04 n600
9880 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX2.ystat
9881 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:2
9882 ) 0.943 0.994 0.006 0.057 9.070e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX2(TP0.950 TN0.993 ER9.568e-05 n600
9883 ) 0.929 0.986 0.014 0.071 1.224e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX2(TP0.933 TN0.993 ER1.235e-04 n600
9884 ) 0.900 0.992 0.008 0.100 1.542e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX2(TP0.950 TN0.993 ER9.568e-05 n600
9885 ) 0.814 0.995 0.005 0.186 2.721e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX2(TP0.883 TN0.994 ER2.037e-04 n600
9886 ) 0.843 0.990 0.010 0.157 2.381e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX2(TP0.883 TN0.998 ER1.975e-04 n600
9887 ) 0.957 0.998 0.002 0.043 6.349e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX2(TP0.983 TN0.998 ER3.086e-05 n600
9888 ) 0.843 0.987 0.013 0.157 2.426e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX2(TP0.917 TN0.985 ER5.247e-05 n600
9889 ) 0.886 0.971 0.029 0.114 2.041e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX2(TP0.867 TN0.987 ER2.438e-04 n600
9890 ) 0.886 0.995 0.005 0.114 1.701e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX2(TP0.900 TN0.994 ER6.481e-05 n600
9891 ) 0.986 0.997 0.003 0.014 2.494e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX2(TP0.950 TN0.996 ER6.173e-05 n600
9892 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX3.ystat
9893 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:3
9894 ) 0.914 0.997 0.003 0.086 1.270e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX3(TP0.933 TN0.998 ER1.142e-04 n600
9895 ) 0.943 0.994 0.006 0.057 9.070e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX3(TP0.950 TN0.994 ER9.259e-05 n600
9896 ) 0.900 0.995 0.005 0.100 1.497e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX3(TP0.983 TN0.994 ER3.704e-05 n600
9897 ) 0.900 0.987 0.013 0.100 1.610e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX3(TP0.917 TN0.993 ER1.512e-04 n600
9898 ) 0.871 0.984 0.016 0.129 2.063e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX3(TP0.900 TN0.994 ER1.759e-04 n600
9899 ) 0.971 0.995 0.005 0.029 4.762e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX3(TP0.983 TN0.994 ER3.704e-05 n600
9900 ) 0.886 0.989 0.011 0.114 1.791e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX3(TP1.000 TN0.991 ER1.543e-05 n600
9901 ) 0.800 0.995 0.005 0.200 2.925e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX3(TP0.950 TN0.994 ER1.481e-04 n600
9902 ) 0.843 0.994 0.006 0.157 2.336e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX3(TP0.967 TN0.994 ER6.481e-05 n600
9903 ) 0.986 0.997 0.003 0.014 2.494e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX3(TP0.983 TN0.998 ER3.086e-05 n600
9904 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX4.ystat
9905 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:4
9906 ) 0.871 0.998 0.002 0.129 1.859e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX4(TP1.000 TN1.000 ER0.000e+00 n600
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9907 ) 0.943 0.992 0.008 0.057 9.297e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX4(TP0.933 TN0.994 ER1.204e-04 n600
9908 ) 0.914 0.994 0.006 0.086 1.315e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX4(TP0.967 TN0.993 ER6.790e-05 n600
9909 ) 0.800 0.990 0.010 0.200 2.993e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX4(TP0.933 TN0.989 ER1.296e-04 n600
9910 ) 0.843 0.986 0.014 0.157 2.449e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX4(TP0.917 TN0.996 ER1.451e-04 n600
9911 ) 0.871 1.000 0.000 0.129 1.837e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX4(TP1.000 TN1.000 ER0.000e+00 n600
9912 ) 0.971 0.968 0.032 0.029 8.617e-05 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX4(TP0.983 TN0.991 ER4.321e-05 n600
9913 ) 0.743 0.989 0.011 0.257 3.832e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX4(TP0.867 TN0.987 ER2.438e-04 n600
9914 ) 0.871 0.978 0.022 0.129 2.154e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX4(TP0.950 TN0.993 ER9.568e-05 n600
9915 ) 0.986 0.997 0.003 0.014 2.494e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX4(TP0.983 TN0.996 ER3.395e-05 n600
9916 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX5.ystat
9917 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:5
9918 ) 0.971 0.998 0.002 0.029 4.308e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX5(TP0.967 TN0.998 ER5.864e-05 n600
9919 ) 0.886 0.994 0.006 0.114 1.723e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX5(TP0.933 TN0.994 ER1.204e-04 n600
9920 ) 0.986 0.989 0.011 0.014 3.628e-05 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX5(TP1.000 TN0.994 ER9.259e-06 n600
9921 ) 0.871 0.989 0.011 0.129 1.995e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX5(TP0.917 TN0.991 ER1.543e-04 n600
9922 ) 0.886 0.992 0.008 0.114 1.746e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX5(TP0.950 TN0.991 ER9.877e-05 n600
9923 ) 0.986 0.994 0.006 0.014 2.948e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX5(TP0.983 TN0.998 ER3.086e-05 n600
9924 ) 0.914 0.987 0.013 0.086 1.406e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX5(TP0.967 TN0.985 ER8.025e-05 n600
9925 ) 0.914 0.992 0.008 0.086 1.338e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX5(TP0.917 TN0.994 ER1.481e-04 n600
9926 ) 0.886 0.995 0.005 0.114 1.701e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX5(TP0.950 TN0.994 ER9.259e-06 n600
9927 ) 1.000 1.000 0.000 0.000 0.000e+00 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX5(TP1.000 TN1.000 ER0.000e+00 n600
9928 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX6.ystat
9929 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:6
9930 ) 0.986 0.992 0.008 0.014 3.175e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX6(TP0.983 TN0.994 ER3.704e-05 n600
9931 ) 0.829 0.998 0.002 0.171 2.472e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX6(TP1.000 TN0.991 ER1.389e-04 n600
9932 ) 0.914 0.990 0.010 0.086 1.361e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX6(TP1.000 TN0.994 ER9.259e-06 n600
9933 ) 0.857 0.992 0.008 0.143 2.154e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX6(TP0.900 TN0.991 ER1.821e-04 n600
9934 ) 0.843 0.984 0.016 0.157 2.472e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX6(TP0.950 TN0.993 ER9.568e-05 n600
9935 ) 0.986 0.998 0.002 0.014 2.268e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX6(TP1.000 TN0.998 ER3.086e-06 n600
9936 ) 0.857 0.987 0.013 0.143 2.222e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX6(TP0.967 TN0.991 ER7.099e-05 n600
9937 ) 0.800 0.987 0.013 0.200 3.039e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX6(TP0.850 TN0.991 ER2.654e-04 n600
9938 ) 0.857 0.990 0.010 0.143 2.177e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX6(TP0.983 TN0.989 ER4.630e-05 n600
9939 ) 0.986 0.997 0.003 0.014 2.494e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX6(TP0.983 TN1.000 ER2.778e-05 n600
9940 cat ../../2012/12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX7.ystat
9941 #oob4speakerdigit+sX sp:fhs:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole d:-1 N:40 sX:7
9942 ) 0.929 0.990 0.010 0.071 1.156e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX7(TP0.929 TN0.990 ER1.156e-04 n700
9943 ) 0.943 0.994 0.006 0.057 9.070e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX7(TP0.943 TN0.994 ER9.070e-05 n700
9944 ) 0.886 0.987 0.013 0.114 1.814e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX7(TP0.886 TN0.987 ER1.814e-04 n700
9945 ) 0.943 0.989 0.011 0.057 9.751e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX7(TP0.943 TN0.989 ER9.751e-05 n700
9946 ) 0.943 0.979 0.021 0.057 1.111e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX7(TP0.943 TN0.979 ER1.111e-04 n700
9947 ) 0.900 1.000 0.000 0.100 1.429e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX7(TP0.900 TN1.000 ER1.429e-04 n700
9948 ) 0.929 0.990 0.010 0.071 1.156e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX7(TP0.929 TN0.990 ER1.156e-04 n700
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9949 ) 0.900 0.995 0.005 0.100 1.497e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX7(TP0.900 TN0.995 ER1.497e-04 n700)
9950 ) 0.929 0.983 0.017 0.071 1.270e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX7(TP0.929 TN0.983 ER1.270e-04 n700)
9951   0.986 0.997 0.003 0.014 2.494e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX7(TP0.986 TN0.997 ER2.494e-05 n700)
9952 oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu nt
     xi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole sdi:-1 N:40 sX:0
9954 cat ../../2012/12voicedata/allpole/oob4sdi-1N40mbas2:300:1.6:1sX0.ystat
9955 #oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu n
     txi:10 k:36 mbas:2:300:1.6:1 dir:../../2012/12voicedata/allpole sdi:-1 N:40 sX:0
9956 0.900 0.999 0.001 0.100 1.449e-04 700 1 0 #TP,TN,FP,FN,ERR,n,sml txm0 sX0(TP0.900 TN0.998 ER1.695e-0
     4 n600)
9957 0.800 0.996 0.004 0.200 2.919e-04 700 1 1 #TP,TN,FP,FN,ERR,n,sml txm1 sX0(TP0.800 TN0.995 ER3.418e-0
     4 n600)
9958 0.900 0.996 0.004 0.100 1.491e-04 700 1 2 #TP,TN,FP,FN,ERR,n,sml txm2 sX0(TP0.900 TN0.997 ER1.723e-0
     4 n600)
9959 0.900 1.000 0.000 0.100 1.429e-04 700 1 3 #TP,TN,FP,FN,ERR,n,sml txm3 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9960 0.800 0.996 0.004 0.200 2.919e-04 700 1 4 #TP,TN,FP,FN,ERR,n,sml txm4 sX0(TP0.800 TN0.995 ER3.418e-0
     4 n600)
9961 1.000 0.984 0.016 0.000 2.277e-05 700 1 5 #TP,TN,FP,FN,ERR,n,sml txm5 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9962 1.000 0.999 0.001 0.000 2.070e-06 700 1 6 #TP,TN,FP,FN,ERR,n,sml txm6 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9963 0.800 0.996 0.004 0.200 2.919e-04 700 1 7 #TP,TN,FP,FN,ERR,n,sml txm7 sX0(TP0.800 TN0.995 ER3.418e-0
     4 n600)
9964 0.900 1.000 0.000 0.100 1.429e-04 700 1 8 #TP,TN,FP,FN,ERR,n,sml txm8 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9965 1.000 1.000 0.000 0.000 0.000e+00 700 1 9 #TP,TN,FP,FN,ERR,n,sml txm9 sX0(TP1.000 TN1.000 ER0.000e+0
     0 n600)
9966 0.900 1.000 0.000 0.100 1.429e-04 700 2 0 #TP,TN,FP,FN,ERR,n,sm2 txm0 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9967 0.900 0.996 0.004 0.100 1.491e-04 700 2 1 #TP,TN,FP,FN,ERR,n,sm2 txm1 sX0(TP0.900 TN0.995 ER1.751e-0
     4 n600)
9968 1.000 0.991 0.009 0.000 1.242e-04 700 2 2 #TP,TN,FP,FN,ERR,n,sm2 txm2 sX0(TP1.000 TN0.990 ER1.695e-0
     5 n600)
9969 0.900 0.997 0.003 0.100 1.470e-04 700 2 3 #TP,TN,FP,FN,ERR,n,sm2 txm3 sX0(TP0.900 TN0.997 ER1.723e-0
     4 n600)
9970 1.000 0.996 0.004 0.000 6.211e-06 700 2 4 #TP,TN,FP,FN,ERR,n,sm2 txm4 sX0(TP1.000 TN0.995 ER8.475e-0
     6 n600)
9971 1.000 0.997 0.003 0.000 4.141e-06 700 2 5 #TP,TN,FP,FN,ERR,n,sm2 txm5 sX0(TP1.000 TN0.997 ER5.650e-0
     6 n600)
9972 0.900 1.000 0.000 0.100 1.429e-04 700 2 6 #TP,TN,FP,FN,ERR,n,sm2 txm6 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9973 0.900 1.000 0.000 0.100 1.429e-04 700 2 7 #TP,TN,FP,FN,ERR,n,sm2 txm7 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9974 0.900 1.000 0.000 0.100 1.429e-04 700 2 8 #TP,TN,FP,FN,ERR,n,sm2 txm8 sX0(TP0.900 TN1.000 ER1.667e-0
     4 n600)
9975 1.000 0.997 0.003 0.000 4.141e-06 700 2 9 #TP,TN,FP,FN,ERR,n,sm2 txm9 sX0(TP1.000 TN0.997 ER5.650e-0
     6 n600)
9976 0.800 1.000 0.000 0.200 2.857e-04 700 3 0 #TP,TN,FP,FN,ERR,n,sm3 txm0 sX0(TP0.800 TN1.000 ER3.333e-0
     4 n600)
9977 1.000 1.000 0.000 0.000 0.000e+00 700 3 1 #TP,TN,FP,FN,ERR,n,sm3 txm1 sX0(TP1.000 TN1.000 ER0.000e+0
     0 n600)
9978 1.000 0.996 0.004 0.000 6.211e-06 700 3 2 #TP,TN,FP,FN,ERR,n,sm3 txm2 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9979 1.000 0.999 0.001 0.000 2.070e-06 700 3 3 #TP,TN,FP,FN,ERR,n,sm3 txm3 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9980 0.900 0.996 0.004 0.100 1.491e-04 700 3 4 #TP,TN,FP,FN,ERR,n,sm3 txm4 sX0(TP0.900 TN0.997 ER1.723e-0
     4 n600)
9981 0.900 1.000 0.000 0.100 1.449e-04 700 3 5 #TP,TN,FP,FN,ERR,n,sm3 txm5 sX0(TP0.900 TN0.998 ER1.695e-0
     4 n600)
9982 0.900 0.994 0.006 0.100 1.511e-04 700 3 6 #TP,TN,FP,FN,ERR,n,sm3 txm6 sX0(TP0.900 TN0.993 ER1.780e-0
     4 n600)
9983 1.000 0.994 0.006 0.000 8.282e-06 700 3 7 #TP,TN,FP,FN,ERR,n,sm3 txm7 sX0(TP1.000 TN0.993 ER1.130e-0
     5 n600)
9984 1.000 0.996 0.004 0.000 6.211e-06 700 3 8 #TP,TN,FP,FN,ERR,n,sm3 txm8 sX0(TP1.000 TN0.995 ER8.475e-0
     6 n600)
9985 0.800 1.000 0.000 0.200 2.857e-04 700 3 9 #TP,TN,FP,FN,ERR,n,sm3 txm9 sX0(TP0.800 TN1.000 ER3.333e-0
     4 n600)
9986 1.000 0.999 0.001 0.000 2.070e-06 700 4 0 #TP,TN,FP,FN,ERR,n,sm4 txm0 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9987 0.800 0.994 0.006 0.200 2.940e-04 700 4 1 #TP,TN,FP,FN,ERR,n,sm4 txm1 sX0(TP0.800 TN0.993 ER3.446e-0
     4 n600)
9988 0.900 0.981 0.019 0.100 2.692e-05 700 4 2 #TP,TN,FP,FN,ERR,n,sm4 txm2 sX0(TP0.900 TN0.993 ER1.130e-0
     5 n600)
9989 1.000 0.999 0.001 0.000 2.070e-06 700 4 3 #TP,TN,FP,FN,ERR,n,sm4 txm3 sX0(TP1.000 TN0.998 ER2.825e-0
     6 n600)
9990 0.700 0.988 0.012 0.300 4.451e-04 700 4 4 #TP,TN,FP,FN,ERR,n,sm4 txm4 sX0(TP0.700 TN0.990 ER5.169e-0
     4 n600)
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9991  0.900 0.999 0.001 0.100 1.449e-04 700 4 5 #TP,TN,FP,FN,ERR,n,sm4 sXm5 sX0(TP0.900 TN0.998 ER1.695e-0
      4 n600)
9992  1.000 0.990 0.010 0.000 1.449e-05 700 4 6 #TP,TN,FP,FN,ERR,n,sm4 txm6 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
9993  0.800 0.997 0.003 0.200 2.899e-04 700 4 7 #TP,TN,FP,FN,ERR,n,sm4 txm7 sX0(TP0.800 TN0.997 ER3.390e-0
      4 n600)
9994  1.000 0.999 0.001 0.000 2.070e-06 700 4 8 #TP,TN,FP,FN,ERR,n,sm4 txm8 sX0(TP1.000 TN0.998 ER2.825e-0
      6 n600)
9995  1.000 1.000 0.000 0.000 0.000e+00 700 4 9 #TP,TN,FP,FN,ERR,n,sm4 txm9 sX0(TP1.000 TN1.000 ER0.000e+0
      0 n600)
9996  0.900 0.999 0.001 0.100 1.449e-04 700 5 0 #TP,TN,FP,FN,ERR,n,sm5 txm0 sX0(TP0.900 TN0.998 ER1.695e-0
      4 n600)
9997  1.000 0.997 0.004 0.000 6.211e-06 700 5 1 #TP,TN,FP,FN,ERR,n,sm5 txm1 sX0(TP1.000 TN0.997 ER5.650e-0
      6 n600)
9998  1.000 0.999 0.001 0.000 2.070e-06 700 5 2 #TP,TN,FP,FN,ERR,n,sm5 txm2 sX0(TP1.000 TN0.998 ER2.825e-0
      6 n600)
9999  1.000 0.991 0.009 0.000 1.242e-05 700 5 3 #TP,TN,FP,FN,ERR,n,sm5 txm3 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
10000 1.000 0.996 0.004 0.000 6.211e-06 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
10001 1.000 0.999 0.001 0.000 2.070e-06 700 5 5 #TP,TN,FP,FN,ERR,n,sm5 txm5 sX0(TP1.000 TN0.998 ER2.825e-0
      6 n600)
10002 1.000 0.996 0.004 0.000 6.211e-06 700 5 6 #TP,TN,FP,FN,ERR,n,sm5 txm6 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
10003 0.900 0.996 0.004 0.100 1.491e-04 700 5 7 #TP,TN,FP,FN,ERR,n,sm5 txm7 sX0(TP0.900 TN0.995 ER1.751e-0
      4 n600)
10004 0.800 0.997 0.003 0.200 2.899e-04 700 5 8 #TP,TN,FP,FN,ERR,n,sm5 txm8 sX0(TP0.800 TN0.997 ER3.390e-0
      4 n600)
10005 0.900 0.994 0.006 0.100 1.511e-04 700 5 9 #TP,TN,FP,FN,ERR,n,sm5 txm9 sX0(TP0.900 TN0.993 ER1.780e-0
      4 n600)
10006 1.000 0.997 0.003 0.000 4.141e-06 700 6 0 #TP,TN,FP,FN,ERR,n,sm6 txm0 sX0(TP1.000 TN0.997 ER5.650e-0
      6 n600)
10007 1.000 0.996 0.004 0.000 6.211e-06 700 6 1 #TP,TN,FP,FN,ERR,n,sm6 txm1 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
10008 1.000 1.000 0.000 0.000 0.000e+00 700 6 2 #TP,TN,FP,FN,ERR,n,sm6 txm2 sX0(TP1.000 TN1.000 ER0.000e+0
      0 n600)
10009 0.700 1.000 0.000 0.300 4.286e-04 700 6 3 #TP,TN,FP,FN,ERR,n,sm6 txm3 sX0(TP0.700 TN1.000 ER5.000e-0
      4 n600)
10010 0.800 0.999 0.001 0.200 2.878e-04 700 6 4 #TP,TN,FP,FN,ERR,n,sm6 txm4 sX0(TP0.800 TN0.998 ER3.362e-0
      4 n600)
10011 1.000 0.996 0.004 0.000 6.211e-06 700 6 5 #TP,TN,FP,FN,ERR,n,sm6 txm5 sX0(TP1.000 TN0.995 ER8.475e-0
      6 n600)
10012 1.000 0.994 0.006 0.000 8.282e-06 700 6 6 #TP,TN,FP,FN,ERR,n,sm6 txm6 sX0(TP1.000 TN0.993 ER1.130e-0
      5 n600)
10013 1.000 0.997 0.003 0.000 4.141e-06 700 6 7 #TP,TN,FP,FN,ERR,n,sm6 txm7 sX0(TP1.000 TN0.997 ER5.650e-0
      6 n600)
10014 1.000 0.999 0.001 0.000 2.070e-06 700 6 8 #TP,TN,FP,FN,ERR,n,sm6 txm8 sX0(TP1.000 TN0.998 ER2.825e-0
      6 n600)
10015 0.900 0.999 0.001 0.100 1.449e-04 700 6 9 #TP,TN,FP,FN,ERR,n,sm6 txm9 sX0(TP0.900 TN0.998 ER1.695e-0
      4 n600)
10016
10017 ##################
10018 ################3
10019 20140324
10020 [1] oob4speakerdigit+sX.c    は変?    202行目付近で195行目のfntestを再定義していた。→修正
10021 #修正チェック
10022 #time oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:
      kyu ntxi:10 k:36 mbas:2:10:1.6:1 dir:../../2012/12voicedata/allpole s:-1 N:40 sX:3
10023 #result with rm result-ensrs2ge/tmp/*
10024 #real5ml3.994s user4m30.077s sys0ml3.337s with rm result-ensrs2ge/tmp/*
10025 #real5ml2.825s user4m29.161s sys0ml2.469s with copy pred.dat files
10026 #real5m8.242s  user4m24.089s sys0ml3.205s without anything
10027 #cat ../../2012/12voicedata/allpole/oob4s:-1N40mbas2:10:1.6:1sX3.ystat
10028
10029 #time oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:
      kyu ntxi:10 k:36 mbas:2:10:1.6:1 dir:../../2012/12voicedata/allpole s:-1 N:40 sX:3
10030 )#0.960 0.987 0.013 0.040 7.619e-05 700 0 #TP,TN,FP,FN,ERR,n,sm0 sX3(TP0.960 TN0.960 ER8.667e-05 n600
10031 )#0.950 0.998 0.002 0.050 7.381e-05 700 1 #TP,TN,FP,FN,ERR,n,sml sX3(TP0.950 TN0.998 ER8.667e-05 n600
10032 )#0.970 0.963 0.037 0.030 9.524e-05 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX3(TP0.970 TN0.986 ER7.333e-05 n600
10033 )#0.950 0.977 0.023 0.050 1.048e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX3(TP0.950 TN0.996 ER9.000e-05 n600
10034 )#0.980 0.933 0.067 0.020 1.238e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX3(TP0.980 TN0.976 ER7.333e-05 n600
10035 )#0.950 0.972 0.028 0.050 1.119e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX3(TP0.950 TN0.984 ER1.100e-04 n600
10036 #mv ../../2012/12voicedata/allpole/oob4s:-1N40mbas2:10:1.6:1sX3.y ../../2012/12voicedata/allpole/oob4s:-1N40mbas2:10
      :1.6:1sX3-l.y
10037 修正後
10038 (1)
```

```
cat ../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX0.ystat
#oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:0
0.950 0.953 0.047 0.050 1.381e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1 sX0(TP0.950 TN0.988 ER1.033e-04 n600)
0.930 0.985 0.015 0.070 1.214e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX0(TP0.930 TN0.982 ER1.467e-04 n600)
0.910 0.970 0.030 0.090 1.714e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3 sX0(TP0.910 TN0.972 ER1.967e-04 n600)
0.940 0.942 0.058 0.060 1.690e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX0(TP0.940 TN0.984 ER1.267e-04 n600)
0.970 0.960 0.040 0.030 1.000e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.970 TN0.970 ER1.000e-04 n600)
0.930 0.972 0.028 0.070 1.405e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX0(TP0.930 TN0.972 ER1.633e-04 n600)

cat ../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX1.ystat
#oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:1
0.990 0.952 0.048 0.010 8.333e-05 700 0 #TP,TN,FP,FN,ERR,n,sm0 sX1(TP0.990 TN0.992 ER3.000e-05 n600)
0.940 0.963 0.037 0.060 1.381e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX1(TP0.940 TN0.984 ER1.267e-04 n600)
0.920 0.985 0.015 0.080 1.357e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3 sX1(TP0.920 TN0.984 ER1.600e-04 n600)
0.940 0.985 0.015 0.060 1.071e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX1(TP0.940 TN0.986 ER1.233e-04 n600)
0.930 0.967 0.033 0.070 1.476e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX1(TP0.930 TN0.970 ER1.667e-04 n600)
0.960 0.967 0.033 0.040 1.048e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX1(TP0.960 TN0.974 ER1.100e-04 n600)

cat ../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX2.ystat
#/home/kuro/sotu/2013/can2b/oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:2
0.980 0.993 0.007 0.020 3.810e-05 700 0 #TP,TN,FP,FN,ERR,n,sm0 sX2(TP0.980 TN0.994 ER4.333e-05 n600)
0.970 0.980 0.020 0.030 7.143e-05 700 1 #TP,TN,FP,FN,ERR,n,sm1 sX2(TP0.970 TN0.990 ER6.667e-05 n600)
0.940 0.945 0.055 0.060 1.643e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3 sX2(TP0.940 TN0.978 ER1.367e-04 n600)
0.940 0.985 0.015 0.060 1.071e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX2(TP0.940 TN0.990 ER1.167e-04 n600)
0.970 0.972 0.028 0.030 8.333e-05 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX2(TP0.970 TN0.982 ER8.000e-05 n600)
0.910 0.935 0.065 0.090 2.214e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX2(TP0.910 TN0.974 ER1.933e-04 n600)

at ../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX3.ystat
#/home/kuro/sotu/2013/can2b/oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:3
0.980 0.988 0.012 0.020 4.524e-05 700 0 #TP,TN,FP,FN,ERR,n,sm0 sX3(TP0.980 TN0.990 ER5.000e-05 n600)
0.960 0.990 0.010 0.040 7.143e-05 700 1 #TP,TN,FP,FN,ERR,n,sm1 sX3(TP0.960 TN0.988 ER8.667e-05 n600)
0.900 0.957 0.043 0.100 2.048e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX3(TP0.900 TN0.982 ER1.967e-04 n600)
0.950 0.963 0.037 0.050 1.238e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX3(TP0.950 TN0.976 ER1.233e-04 n600)
0.960 0.947 0.053 0.040 1.333e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX3(TP0.960 TN0.970 ER1.167e-04 n600)
0.910 0.957 0.043 0.090 1.905e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX3(TP0.910 TN0.968 ER2.033e-04 n600)

########
20140123 text-prompted speaker verification
(1) CAN2による学習と予測
   oob4speakerdigit+sX.c
    loo4では認識率が低すぎる→ out-of-bagを導入 s \in S  についてはout-of-bagで予測, s= sX \not\in S についてはSを学習したネットでbagging予測
     （out-of-bagがなぜいいのかは分からない？）

time oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:0
real36m3.055s user27m50.044s sys5m2.623s
kuro@kurolab-VB:~/sotu/2013/can2b$ kuro@kurolab-VB:~/sotu/2013/can2b$ cat ../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX0.ystat
#oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole s:-1 N:40 sX:0
0.941 0.953 0.047 0.059 1.516e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1 sX0(TP0.950 TN0.988 ER1.033e-04 n600)
0.921 0.985 0.015 0.079 1.346e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX0(TP0.930 TN0.982 ER1.467e-04 n600)
0.901 0.970 0.030 0.099 1.844e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3 sX0(TP0.910 TN0.972 ER1.967e-04 n600)
0.931 0.942 0.058 0.069 1.825e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX0(TP0.940 TN0.984 ER1.267e-04 n600)
0.960 0.960 0.040 0.040 1.138e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.970 TN0.970 ER1.000e-04 n600)
0.931 0.972 0.028 0.069 1.396e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX0(TP0.930 TN0.972 ER1.633e-04 n600)

real63m13.461s user49m11.484s sys8m36.960s
kuro@kurolab-VB:~/sotu/2013/can2b$ kuro@kurolab-VB:~/sotu/2013/can2b$ cat ../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX0.ystat
#oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole d:-1 N:40 sX:0
0.951 0.995 0.005 0.049 7.696e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0 sX0(TP0.967 TN0.996 ER6.173e-05 n600)
0.918 0.980 0.020 0.082 1.462e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1 sX0(TP0.933 TN0.993 ER1.235e-04 n600)
0.902 0.961 0.039 0.098 1.964e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2 sX0(TP0.917 TN0.991 ER1.543e-04 n600)
0.885 0.995 0.005 0.115 1.706e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3 sX0(TP0.900 TN0.996 ER1.728e-04 n600)
0.869 0.969 0.031 0.131 2.321e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4 sX0(TP0.883 TN0.991 ER2.099e-04 n600)
0.951 0.978 0.022 0.049 1.016e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5 sX0(TP0.967 TN0.993 ER6.790e-05 n600)
0.967 0.977 0.023 0.033 8.037e-05 700 6 #TP,TN,FP,FN,ERR,n,txm6 sX0(TP0.983 TN0.985 ER5.247e-05 n600)
```

```
0.984 0.987 0.013 0.016 4.130e-05 700 7 #TP,TN,FP,FN,ERR,n,txm7 sX0(TP1.000 TN0.987 ER2.160e-05 n600)
0.934 0.991 0.009 0.066 1.071e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8 sX0(TP0.950 TN0.993 ER9.568e-05 n600)
1.000 0.995 0.005 0.000 6.707e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9 sX0(TP1.000 TN0.994 ER9.259e-06 n600)

real489m40.883s user394m6.894s sys60m16.338s
cat ../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1sX0.ystat
#oob4speakerdigit+sX sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd:-1 N:40 sX:0
0.818 0.999 0.001 0.182 2.618e-04 700 1 0 #TP,TN,FP,FN,ERR,n,sm1 txm0 sX0(TP0.900 TN0.998 ER1.695e-04 n600)
0.727 0.996 0.004 0.273 3.958e-04 700 1 1 #TP,TN,FP,FN,ERR,n,sm1 txm1 sX0(TP0.800 TN0.995 ER3.418e-04 n600)
0.818 0.996 0.004 0.182 2.660e-04 700 1 2 #TP,TN,FP,FN,ERR,n,sm1 txm2 sX0(TP0.900 TN0.997 ER1.723e-04 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 1 3 #TP,TN,FP,FN,ERR,n,sm1 txm3 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.727 0.996 0.004 0.273 3.958e-04 700 1 4 #TP,TN,FP,FN,ERR,n,sm1 txm4 sX0(TP0.800 TN0.995 ER3.418e-04 n600)
0.909 0.984 0.016 0.091 1.527e-04 700 1 5 #TP,TN,FP,FN,ERR,n,sm1 txm5 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.909 0.999 0.001 0.091 1.319e-04 700 1 6 #TP,TN,FP,FN,ERR,n,sm1 txm6 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.727 0.996 0.004 0.273 3.958e-04 700 1 7 #TP,TN,FP,FN,ERR,n,sm1 txm7 sX0(TP0.800 TN0.995 ER3.418e-04 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 1 8 #TP,TN,FP,FN,ERR,n,sm1 txm8 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.909 1.000 0.000 0.091 1.299e-04 700 1 9 #TP,TN,FP,FN,ERR,n,sm1 txm9 sX0(TP1.000 TN1.000 ER0.000e+00 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 2 0 #TP,TN,FP,FN,ERR,n,sm2 txm0 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.818 0.996 0.004 0.182 2.660e-04 700 2 1 #TP,TN,FP,FN,ERR,n,sm2 txm1 sX0(TP0.900 TN0.995 ER1.751e-04 n600)
0.909 0.991 0.009 0.091 1.423e-04 700 2 2 #TP,TN,FP,FN,ERR,n,sm2 txm2 sX0(TP1.000 TN0.990 ER1.695e-05 n600)
0.818 0.997 0.003 0.182 2.639e-04 700 2 3 #TP,TN,FP,FN,ERR,n,sm2 txm3 sX0(TP0.900 TN0.997 ER1.723e-04 n600)
0.909 0.996 0.004 0.091 1.361e-04 700 2 4 #TP,TN,FP,FN,ERR,n,sm2 txm4 sX0(TP1.000 TN0.995 ER8.475e-06 n600)
0.909 0.997 0.003 0.091 1.340e-04 700 2 5 #TP,TN,FP,FN,ERR,n,sm2 txm5 sX0(TP1.000 TN0.997 ER5.650e-06 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 2 6 #TP,TN,FP,FN,ERR,n,sm2 txm6 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 2 7 #TP,TN,FP,FN,ERR,n,sm2 txm7 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.818 1.000 0.000 0.182 2.597e-04 700 2 8 #TP,TN,FP,FN,ERR,n,sm2 txm8 sX0(TP0.900 TN1.000 ER1.667e-04 n600)
0.909 0.997 0.003 0.091 1.340e-04 700 2 9 #TP,TN,FP,FN,ERR,n,sm2 txm9 sX0(TP1.000 TN0.997 ER5.650e-06 n600)
0.727 1.000 0.000 0.273 3.896e-04 700 3 0 #TP,TN,FP,FN,ERR,n,sm3 txm0 sX0(TP0.800 TN1.000 ER3.333e-04 n600)
0.909 1.000 0.000 0.091 1.299e-04 700 3 1 #TP,TN,FP,FN,ERR,n,sm3 txm1 sX0(TP1.000 TN1.000 ER0.000e+00 n600)
0.909 0.996 0.004 0.091 1.361e-04 700 3 2 #TP,TN,FP,FN,ERR,n,sm3 txm2 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.909 0.999 0.001 0.091 1.319e-04 700 3 3 #TP,TN,FP,FN,ERR,n,sm3 txm3 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.818 0.996 0.004 0.182 2.660e-04 700 3 4 #TP,TN,FP,FN,ERR,n,sm3 txm4 sX0(TP0.900 TN0.997 ER1.723e-04 n600)
0.818 0.999 0.001 0.182 2.618e-04 700 3 5 #TP,TN,FP,FN,ERR,n,sm3 txm5 sX0(TP0.900 TN0.998 ER1.695e-04 n600)
0.818 0.994 0.006 0.182 2.680e-04 700 3 6 #TP,TN,FP,FN,ERR,n,sm3 txm6 sX0(TP0.900 TN0.993 ER1.780e-04 n600)
0.909 0.994 0.006 0.091 1.382e-04 700 3 7 #TP,TN,FP,FN,ERR,n,sm3 txm7 sX0(TP1.000 TN0.993 ER1.130e-05 n600)
0.909 0.996 0.004 0.091 1.361e-04 700 3 8 #TP,TN,FP,FN,ERR,n,sm3 txm8 sX0(TP1.000 TN0.995 ER8.475e-06 n600)
0.727 1.000 0.000 0.273 3.896e-04 700 3 9 #TP,TN,FP,FN,ERR,n,sm3 txm9 sX0(TP0.800 TN1.000 ER3.333e-04 n600)
0.909 0.999 0.001 0.091 1.319e-04 700 4 0 #TP,TN,FP,FN,ERR,n,sm4 txm0 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.727 0.994 0.006 0.273 3.979e-04 700 4 1 #TP,TN,FP,FN,ERR,n,sm4 txm1 sX0(TP0.800 TN0.993 ER3.446e-04 n600)
0.909 0.981 0.019 0.091 1.568e-04 700 4 2 #TP,TN,FP,FN,ERR,n,sm4 txm2 sX0(TP1.000 TN0.993 ER1.130e-05 n600)
0.909 0.999 0.001 0.091 1.319e-04 700 4 3 #TP,TN,FP,FN,ERR,n,sm4 txm3 sX0(TP1.000 TN0.998 ER2.825e-06 n600)
0.636 0.988 0.012 0.364 5.361e-04 700 4 4 #TP,TN,FP,FN,ERR,n,sm4 txm4 sX0(TP0.700 TN0.990 ER5.169e-04 n600)
0.818 0.999 0.001 0.182 2.618e-04 700 4 5 #TP,TN,FP,FN,ERR,n,sm4 txm5 sX0(TP0.900 TN0.998 ER1.695e-0
```

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4 n600)
10147   0.909 0.990 0.010 0.091 1.444e-04 700 4 6 #TP,TN,FP,FN,ERR,n,sm4 txm6 sX0(TP1.000 TN0.995 ER8.475e-0
6 n600)
10148   0.727 0.997 0.003 0.273 3.938e-04 700 4 7 #TP,TN,FP,FN,ERR,n,sm4 txm7 sX0(TP0.800 TN0.997 ER3.390e-0
4 n600)
10149   0.909 0.999 0.001 0.091 1.319e-04 700 4 8 #TP,TN,FP,FN,ERR,n,sm4 txm8 sX0(TP1.000 TN0.998 ER8.475e-0
6 n600)
10150   0.909 1.000 0.000 0.091 1.299e-04 700 4 9 #TP,TN,FP,FN,ERR,n,sm4 txm9 sX0(TP1.000 TN1.000 ER0.000e+0
0 n600)
10151   0.818 0.999 0.001 0.182 2.618e-04 700 5 0 #TP,TN,FP,FN,ERR,n,sm5 txm0 sX0(TP0.900 TN0.998 ER1.695e-0
6 n600)
10152   0.909 0.996 0.004 0.091 1.361e-04 700 5 1 #TP,TN,FP,FN,ERR,n,sm5 txm1 sX0(TP1.000 TN0.997 ER5.650e-0
6 n600)
10153   0.909 0.999 0.001 0.091 1.319e-04 700 5 2 #TP,TN,FP,FN,ERR,n,sm5 txm2 sX0(TP1.000 TN0.998 ER2.825e-0
6 n600)
10154   0.909 0.991 0.009 0.091 1.423e-04 700 5 3 #TP,TN,FP,FN,ERR,n,sm5 txm3 sX0(TP1.000 TN0.995 ER8.475e-0
6 n600)
10155   0.909 0.996 0.004 0.091 1.361e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 sX0(TP1.000 TN0.995 ER8.475e-0
4 n600)
10156   0.909 0.999 0.001 0.091 1.319e-04 700 5 5 #TP,TN,FP,FN,ERR,n,sm5 txm5 sX0(TP1.000 TN0.998 ER2.825e-0
6 n600)
10157   0.909 0.996 0.004 0.091 1.361e-04 700 5 6 #TP,TN,FP,FN,ERR,n,sm5 txm6 sX0(TP1.000 TN0.997 ER5.650e-0
6 n600)
10158   0.818 0.996 0.004 0.182 2.660e-04 700 5 7 #TP,TN,FP,FN,ERR,n,sm5 txm7 sX0(TP0.900 TN0.995 ER1.751e-0
4 n600)
10159   0.727 0.997 0.003 0.273 3.938e-04 700 5 8 #TP,TN,FP,FN,ERR,n,sm5 txm8 sX0(TP0.800 TN0.997 ER3.390e-0
4 n600)
10160   0.818 0.994 0.006 0.182 2.680e-04 700 5 9 #TP,TN,FP,FN,ERR,n,sm5 txm9 sX0(TP0.900 TN0.993 ER1.780e-0
6 n600)
10161   0.909 0.997 0.003 0.091 1.340e-04 700 6 0 #TP,TN,FP,FN,ERR,n,sm6 txm0 sX0(TP1.000 TN0.997 ER5.650e-0
4 n600)
10162   0.909 0.996 0.004 0.091 1.361e-04 700 6 1 #TP,TN,FP,FN,ERR,n,sm6 txm1 sX0(TP1.000 TN0.995 ER8.475e-0
6 n600)
10163   0.909 1.000 0.000 0.091 1.299e-04 700 6 2 #TP,TN,FP,FN,ERR,n,sm6 txm2 sX0(TP1.000 TN1.000 ER0.000e+0
4 n600)
10164   0.636 1.000 0.000 0.364 5.195e-04 700 6 3 #TP,TN,FP,FN,ERR,n,sm6 txm3 sX0(TP0.700 TN1.000 ER5.000e-0
4 n600)
10165   0.727 0.999 0.001 0.273 3.917e-04 700 6 4 #TP,TN,FP,FN,ERR,n,sm6 txm4 sX0(TP0.800 TN0.998 ER3.362e-0
4 n600)
10166   0.909 0.996 0.004 0.091 1.361e-04 700 6 5 #TP,TN,FP,FN,ERR,n,sm6 txm5 sX0(TP1.000 TN0.995 ER8.475e-0
6 n600)
10167   0.909 0.994 0.006 0.091 1.382e-04 700 6 6 #TP,TN,FP,FN,ERR,n,sm6 txm6 sX0(TP1.000 TN0.993 ER1.130e-0
5 n600)
10168   0.909 0.997 0.003 0.091 1.340e-04 700 6 7 #TP,TN,FP,FN,ERR,n,sm6 txm7 sX0(TP1.000 TN0.997 ER5.650e-0
6 n600)
10169   0.909 1.000 0.000 0.091 1.299e-04 700 6 8 #TP,TN,FP,FN,ERR,n,sm6 txm8 sX0(TP1.000 TN1.000 ER0.000e+0
6 n600)
10170   0.909 0.999 0.001 0.091 1.319e-04 700 6 9 #TP,TN,FP,FN,ERR,n,sm6 txm9 sX0(TP1.000 TN0.998 ER2.825e-0
4 n600)
10171   0.909 0.999 0.001 0.091 1.319e-04 700 6 0 #TP,TN,FP,FN,ERR,n,sm6 txm0 sX0(TP1.000 TN0.998 ER1.695e-0
unregistered speaker
10172   (2)speakerdigit_v3.cの修正
10173   sX:0:1 speakerdigit_v3 fs:../12voicedata/allpole/oob4di:-1N40mbas2:300:1.6:1sX
0.y fd:../12voicedata/allpole/oob4di:-1N40mbas2:300:1.6:1sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 g
ibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:$pAd:15 LAR:0.5:0:0
test:5:1000:${iCs}:${icd}:5 $sX usevoid:1
10174   #incorrect speaker involving or not involving s=sX
10175   sX:0:1 include sX=0 for test speaker
10176   sX:0:0 exclude sX=0 for test speaker (toroku washya nomi)
10177   ##gibbs
10178   pAd=0.9:iCs=1:iCd=0:sX=sX:0:1:speakerdigit_v3 fs:../12voicedata/allpole/oob4di:-1N40mbas2:300:1.6:1sX
0.y fd:../12voicedata/allpole/oob4di:-1N40mbas2:300:1.6:1sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 g
ibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:${icd}:5 $sX usevoid:1
test:5:1000:${iCs}:${icd}:5 $sX usevoid:1
10179   #incorrect speaker involving or not involving s=sX
10180   t15 ps0.015U0.011Um0.004Up0.021LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:0/5 midlv-2 dA9 pd0.987U0.012Um0.030Up0.003 better FA0<10 #sX:0:0 usevoid:0
10181   t15 ps0.015U0.011Um0.004Up0.021LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:0/5 midlv-2 dA993 pd0.987U0.012Um0.030Up0.003 better FA0<10 #sX:0:1 usevoid:1
10182   #incorrect speaker involving s=sX
10183   t15 ps0.046U0.077Um0.032Up0.161LC0.003-0.994 iC1000=TR999:FA1:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
5:0:0 iCT1:0/5 midlv-2 dA811 pd0.884U0.217Um0.449Up0.104   OK FA1<10 #sX:0:0 usevoid:0
unregistered speaker
10184   t15 ps0.039U0.065Um0.026Up0.138LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:0/5 midlv-2 dA806 pd0.876U0.200Um0.426Up0.093   #sX:0:1 n_sXtest=166 FA0
10185   t15 ps0.039U0.064Um0.025Up0.141LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:1/5 midlv-2 dA59 pd0.776U0.163Um0.270Up0.094   #sX:0:1 n_sXtest=161 FA0
10186   #for iconip2013 with oob
10187   t15 ps0.015U0.011Um0.004Up0.021LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:0/5 midlv-2 dA993 pd0.987U0.012Um0.030Up0.003 better FA0 #sX:0:0 usevoid:0
10188   #incorrect speaker involving or not involving s=sX
10189   t15 ps0.015U0.011Um0.004Up0.021LC0.003-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT1:0/5 midlv-2 dA993 pd0.987U0.012Um0.030Up0.003 better FA0 #sX:0:0 usevoid:0
10190   t15 ps0.046U0.077Um0.032Up0.161LC0.003-0.994 iC1000=TR999:FA1:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
5:0:0 iCT1:0/5 midlv-2 dA811 pd0.884U0.217Um0.449Up0.104   OK FA1<10 #sX:0:1 usevoid:0
10191   ##usevoid:0 と usevoid:1 の結果は変わらない。なぜ？Gibbsだから？y_void=1（すべての CAN2 の出力が0）と
なることがない（少ない）から？
10192

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10193   ##correct speaker
10194   t15 ps0.973U0.037Um0.066Up0.015LC0.004-0.994 iC0=TR0:FA0:SR0 C1000=TA999:FR1:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT0:0/5 midlv-2 dA1000 pd0.987U0.008Um0.018Up0.002 GOOD FA1<10 #sX:0:1 usevoid:1
10195   t15 ps0.974U0.036Um0.065Up0.014LC0.004-0.994 iC1000=TR36:FA964:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT0:1/5 midlv-2 dA964 pd0.965U0.027Um0.048Up0.012 NG FA964. but ... OK
10196   t15 ps0.974U0.033Um0.059Up0.014LC0.004-0.994 iC1000=TR953:FA47:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT0:2/5 midlv-2 dA47 pd0.839U0.077Um0.130Up0.040   seems GOOD!FA47
10197   t15 ps0.972U0.037Um0.066Up0.015LC0.004-0.994 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT0:3/5 midlv-2 dA0 pd0.488U0.090Um0.106Up0.075   GOOD! FA0
10198
10199   ##### bayes
10200   pAd=0.9:iCs=1:iCd=0:sX=sX:0:1:speakerdigit_v3 fs:../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1sX
0.y fd:../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 g
ibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:$pAd:15 LAR:0.5:0:0
test:5:1000:${iCs}:${icd}:5 $sX usevoid:1
10201   t15 ps0.012U0.037Um0.002Up0.248LC0.003-0.994 iC1000=TR999:FA1:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT1:0/5 midlv-2 dA983 pd0.985U0.044Um0.296Up0.005 #sX:0:0 usevoid:0
10202   t15 ps0.012U0.037Um0.002Up0.248LC0.003-0.994 iC1000=TR999:FA1:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT1:0/5 midlv-2 dA983 pd0.985U0.044Um0.296Up0.005 #sX:0:0 usevoid:1
10203   #incorrect speaker involving s=sX
10204   t15 ps0.024U0.099Um0.014Up0.531LC0.003-0.994 iC1000=TR995:FA5:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT1:0/5 midlv-2 dA794 pd0.807U0.369Um0.729Up0.183 #sX:0:1 usevoid:1 n_sXtest=188 FA5
10205   t15 ps0.018U0.066Um0.008Up0.373LC0.003-0.994 iC1000=TR998:FA2:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT1:1/5 midlv-2 dA655 pd0.783U0.348Um0.525Up0.205 #sX:0:1 usevoid:1 n_sXtest=166 FA2
10206   t15 ps0.017U0.058Um0.007Up0.353LC0.003-0.994 iC1000=TR998:FA2:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT1:2/5 midlv-2 dA487 pd0.671U0.390Um0.594Up0.264 #sX:0:1 usevoid:1 n_sXtest=161 FA2
10207   #correct speaker
10208   t15 ps0.961U0.123Um0.488Up0.029LC0.004-0.994 iC0=TR0:FA0:SR0 C1000=TR995:FA5:SR0 pApAd0.5:0.9 LAR0.5
:0:0 iCT0:0/5 midlv-2 dA986 pd0.985U0.050Um0.410Up0.005 NG? FR31>10
10209   t15 ps0.955U0.141Um0.540Up0.034LC0.004-0.994 iC1000=TR245:FA755:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0
:5:0:0 iCT0:1/5 midlv-2 dA771 pd0.920U0.144Um0.271Up0.070 FA755
10210   t15 ps0.964U0.120Um0.447Up0.026LC0.004-0.994 iC1000=TR450:FA550:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0
.5:0:0 iCT0:2/5 midlv-2 dA557 pd0.792U0.291Um0.383Up0.193 NG FA550
10211   t15 ps0.952U0.149Um0.544Up0.037LC0.004-0.994 iC1000=TR768:FA232:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0
.5:0:0 iCT0:3/5 midlv-2 dA236 pd0.513U0.395Um0.438Up0.264 #sX:0:1 usevoid:1 n_sXtest=188
10212
10213   ################sd
10214   pAd=0.95:iCs=1:iCd=0:sX=sX:0:1:speakerdigit_v3 fsd:../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:
1sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:
2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:$pAd:15 LAR:0.5:0:0 test:5:1000:${iCs}:${icd}:5 $sX usevoid:1
10215   #incorrect speaker iCs=1;iCd=0
10216   t15 ps0.032U0.016Um0.011Up0.022LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0
.5:0:0 iCT0:0/5 midlv-2 dA0 pd0.032U0.160Um0.011Up0.022 sX:0:0
10217   t15 ps0.072U0.088Um0.044Up0.169LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.95 LAR0
.5:0:0 iCT0:1/5 midlv-2 dA0 pd0.996 pd0.988U0.005Um0.012Up0.001   FR4<10 OK?
10218   #correct speaker iCs=0:iCd=?
10219   t15 ps0.988U0.005Um0.012Up0.011LC0.035-0.999 iC0=TR0:FA0:SR0 C1000=TA92:FA908:SR0 pApAd0.5:0.9 LAR0
.5:0:0 iCT0:0/5 midlv-2 dA1000 pd0.988U0.005Um0.012Up0.001   FA908 NG but ... OK
10220   t15 ps0.987U0.005Um0.012Up0.010LC0.002-0.999 iC1000=TR26:FA974:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT0:1/5 midlv-2 dA974 pd0.973U0.023Um0.088Up0.041 seems OK FA9 #pAd=0.95
10221   #pAd=0.95
10222
10223
10224   #pAd=0.95
10225   t15 ps0.072U0.088Um0.044Up0.169LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.95
.5:0:0 iCT1:0/5 midlv-2 dA0 pd0.072U0.088U0.044Up0.169
10226
10227   t15 ps0.988U0.005Um0.012Up0.001LC0.035-0.999 iC0=TR0:FA0:SR0 C1000=TA996:FR4:SR0 pApAd0.5:0.95 LAR0
.5:0:0 iCT0:0/5 midlv-2 dA1000 pd0.988U0.005Um0.012Up0.001   FR4<10 OK? #pAd=0.95
10228   t15 ps0.973U0.023Um0.088Up0.041LC0.002-0.999 iC1000=TR92:FA908:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.95 LAR0
.5:0:0 iCT1:1/5 midlv-2 dA908 pd0.973U0.023Um0.088Up0.010 FA908 NG but ...OK
10229   t15 ps0.876U0.071Um0.108Up0.041LC0.002-0.999 iC1000=TR991:FA9:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.95 LAR0.
5:0:0 iCT0:2/5 midlv-2 dA9 pd0.876U0.071Um0.108Up0.041 seems OK FA9 #pAd=0.95
10230   20140121
10231   #for iconip2013 with oob
10232
10233
10234
10235
10236
10237
10238
10239   20140121
10240   #for iconip2013 with oob
10241   #time oob4speakerdigit+ sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
u ntxi:10 k:36 midlv-2 #file name of y of speaker for iconip201
10242   #fs=fs:../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.y: #file name of y of digit for iconip201
3
10243   #fd=fd:../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1.y: #file name of y of digit for iconip201
3

```
10244  #cat ../l2voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.ystat
10245  ##oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu nt
xi:10 k:36 mbas:2:300:1.6:1 dir:../l2voicedata/allpole s:-1 N:40
10246  #0.97000 0.98000 0.02000 0.03000 7.14286e-05 700 0 #TP,TN,FP,FN,ERR,n,sm0
10247  #at0.92000 0.99000 0.01000 0.08000 1.28571e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1
10248  #0.93000 0.97167 0.02833 0.07000 1.40476e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10249  #0.91000 0.97667 0.02333 0.09000 1.61905e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
10250  #0.95000 0.97333 0.02667 0.05000 1.09524e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10251  #0.93000 0.97667 0.02333 0.07000 1.33333e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10252  #0.92000 0.96667 0.03333 0.08000 1.61905e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10253  #kuro@kurolab-VB:~/sotu/2013/can2b$ cat ../l2voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1.ystat
10254  ##oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu nt
xi:10 k:36 mbas:2:300:1.6:1 dir:../l2voicedata/allpole d:-1 N:40
10255  #0.92857 0.99048 0.00952 0.07143 1.15646e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0
10256  #0.94286 0.99365 0.00635 0.05714 9.07029e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1
10257  #0.88571 0.98730 0.01270 0.11429 1.81406e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2
10258  #0.94286 0.98889 0.01111 0.05714 9.75055e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3
10259  #0.94286 0.97937 0.02063 0.05714 1.11111e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
10260  #0.90000 0.99048 0.00952 0.10000 1.42857e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5
10261  #0.92857 0.99048 0.00952 0.07143 1.15646e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
10262  #0.90000 0.99524 0.00476 0.10000 1.49660e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
10263  #0.92857 0.98254 0.01746 0.07143 1.26984e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
10264  #0.98571 0.99683 0.00317 0.01429 2.49433e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9
10265
10266
10267  (1) sX:0
10268  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:0 ops:y:-1:1
10269  pAd=0.9:iCs=0:iCd=0#speakerdigit_v3 fs:../l2voicedata/allpole/loo4s:-1N350S7D10L10sX0.y fd:../l2voic
edata/allpole/loo4d:-1N350S7D10L10sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 beta:1 sdP:0:0:
iCd]:5 sX:0 usevoid:1
10270  t15 ps0.689U0.154Um0.174Up0.134LC0.059-0.987 iC0=TR0:FA0:SR0 C1000=TR0=TA767:FR233:SA0 pApAd0.5:0.9 LAR0.5
.5:0:0 iCT0:0/5 midiv-2 dA856 pd0.942U0.071Um0.126Up0.033
10271  t15 ps0.698U0.145Um0.168Up0.125LC0.059-0.987 iC1000=TR519:FA481:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.9 LAR0
.5:0:0 iCT0:1/5 midiv-2 dA515 pd0.864U0.107Um0.166Up0.062
10272  t15 ps0.691U0.151Um0.167Up0.136LC0.059-0.987 iC1000=TR996:FA4:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.5
:0:0 iCT0:2/5 midiv-2 dA4 pd0.693U0.137Um0.176Up0.104
10273  t15 ps0.691U0.151Um0.167Up0.136LC0.059-0.987 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
5:0:0 iCT0:3/5 midiv-2 dA0 pd0.441U0.120Um0.131Up0.111
10274  real612m0.958s user289m54.275s sys33m31.374s cat ../l2voicedata/allpole/loo4s:-1N350S7D10L10sX-1.ys
tat
10275  t15 ps0.689U0.154Um0.174Up0.134LC0.059-0.987 iC0=TR0:FA0:SR0 C1000=TR0=TA0:FR0:SA0 pApAd0.5:0.96 LAR
0.5:0:0 iCT0:0/5 midiv-2 dA582 pd0.942U0.071Um0.126Up0.033
10276  pAd=0.9:iCs=0:iCd=0#speakerdigit_v3 fs:../l2voicedata/allpole/loo4s:-1N350S7D10L10sX0.y fd:../l2voic
edata/allpole/loo4d:-1N350S7D10L10sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 beta:1 sdP:0:0:
.5:0:0 iCT0:1/5 midiv-2 dA25 pd0.864U0.107Um0.166Up0.062
10277  t15 ps0.691U0.151Um0.167Up0.136LC0.059-0.987 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
.5:0:0 iCT0:2/5 midiv-2 dA0 pd0.693U0.137Um0.176Up0.104
10278  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:-1 ops:y:-1:1
10279  (2) sX:-1
10280  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole d:-1 N:350 sX:-1 ops:y:-1:1
10281  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole d:-1 N:350 sX:-1 ops:y:-1:1
10282  real632m1.958s user289m54.275s sys33m31.374s cat ../l2voicedata/allpole/loo4s:-1N350S7D10L10sX-1.ys
tat
10283  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu   (fhs&除\ -->nS=6)
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:-1 ops:y:-1:1
10284  0.880 0.973 0.027 0.120 2.095e-04 700 0 #TP,TN,FP,FN,ERR,n,sm0
10285  0.770 0.990 0.010 0.230 3.429e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1
10286  0.670 0.965 0.035 0.330 5.214e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10287  0.660 0.918 0.082 0.340 6.024e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
10288  0.810 0.955 0.045 0.190 3.357e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10289  0.620 0.935 0.065 0.380 6.357e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10290  0.660 0.958 0.042 0.340 5.452e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10291  (3) sp:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
10292  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:-1 ops:y:-1:1
10293  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole d:-1 N:350 sX:-1 ops:y:-1:1
10294  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
10295  mesabo real108lm10.722s user781m27.558s sys19m5.116s cat ../l2voicedata/allpole/loo4s:-1N200S7D10L10
sX-1.ystat
10296  mesabo real108lm10.722s user781m27.558s sys19m5.116s cat ../l2voicedata/allpole/loo4s:-1N200S7D10L10
sX-1.ystat
10297  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
i:10 k:36 dir:../l2voicedata/allpole d:-1 N:200 sX:-1 ops:y:-1:1
10298  0.929 0.978 0.022 0.071 1.338e-04 700 0 #TP,TN,FP,FN,ERR,n,dm0
10299  0.786 0.986 0.014 0.214 3.265e-04 700 1 #TP,TN,FP,FN,ERR,n,dm1
10300  0.857 0.975 0.025 0.143 2.404e-04 700 2 #TP,TN,FP,FN,ERR,n,dm2
10301  0.671 0.960 0.040 0.329 5.261e-04 700 3 #TP,TN,FP,FN,ERR,n,dm3
10302  0.800 0.967 0.033 0.200 3.333e-04 700 4 #TP,TN,FP,FN,ERR,n,dm4
10303  0.943 0.997 0.003 0.057 8.617e-05 700 5 #TP,TN,FP,FN,ERR,n,dm5
10304  0.571 0.979 0.021 0.429 6.417e-04 700 6 #TP,TN,FP,FN,ERR,n,dm6
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10305  0.600 0.944 0.056 0.400 6.508e-04 700 7 #TP,TN,FP,FN,ERR,n,dm7
10306  0.600 0.975 0.025 0.400 6.077e-04 700 8 #TP,TN,FP,FN,ERR,n,dm8
10307  0.986 0.992 0.008 0.014 3.175e-05 700 9 #TP,TN,FP,FN,ERR,n,dm9
10308
10309  2013.12.05
10310
10311
10312  (1) loo4speakerdigit+ c の間違い修正とオプション追加
10313  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:0 ops:y:-1:1
10314  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole d:-1 N:300 sX:0 ops:y:-1:1
10315  time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole sd:-1 N:20 sX:0 ops:y:-1:1
10316
10317  #real880m6.295s user432m12.785s sys44m57.813s
10318  cat ../l2voicedata/allpole/loo4d:-1N350S7D10L10sX0.ystat
10319  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole d:-1 N:350 sX:0 ops:y:-1:1
10320  0.800 0.981 0.019 0.200 3.129e-04 700 0 #TP,TN,FP,FN,ERR,n,dm0 sX0(TP0.933 TN0.983 ER1.389e-04 n600)
10321  0.743 0.973 0.027 0.257 4.059e-04 700 1 #TP,TN,FP,FN,ERR,n,dm1 sX0(TP0.767 TN0.987 ER4.105e-04 n600)
10322  0.829 0.962 0.038 0.171 2.993e-04 700 2 #TP,TN,FP,FN,ERR,n,dm2 sX0(TP0.883 TN0.976 ER2.346e-04 n600)
10323  0.714 0.948 0.052 0.286 4.830e-04 700 3 #TP,TN,FP,FN,ERR,n,dm3 sX0(TP0.767 TN0.957 ER4.599e-04 n600)
10324  0.786 0.930 0.070 0.214 4.059e-04 700 4 #TP,TN,FP,FN,ERR,n,dm4 sX0(TP0.883 TN0.974 ER2.377e-04 n600)
10325  0.957 0.994 0.006 0.043 7.029e-05 700 5 #TP,TN,FP,FN,ERR,n,dm5 sX0(TP0.950 TN0.950 ER9.568e-05 n600)
10326  0.586 0.983 0.017 0.414 6.168e-04 700 6 #TP,TN,FP,FN,ERR,n,dm6 sX0(TP0.617 TN0.983 ER6.667e-04 n600)
10327  0.557 0.957 0.043 0.443 6.939e-04 700 7 #TP,TN,FP,FN,ERR,n,dm7 sX0(TP0.650 TN0.956 ER6.574e-04 n600)
big ERR?
10328  0.557 0.983 0.017 0.443 6.576e-04 700 8 #TP,TN,FP,FN,ERR,n,dm8 sX0(TP0.650 TN0.983 ER6.111e-04 n600)
10329  0.843 0.997 0.003 0.157 2.290e-04 700 9 #TP,TN,FP,FN,ERR,n,dm9 sX0(TP0.998 TN0.998 ER3.086e-05 n600)
10330
10331  cat ../l2voicedata/allpole/loo4d:7N300S7D10L10sX0.ystat
10332  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:300 sX:0 ops:y:-1:1
10333  0.571 0.959 0.041 0.429 6.712e-04 700 7 #TP,TN,FP,FN,ERR,n,dm7 sX0(TP0.667 TN0.952 ER6.358e-04 n600)
smaller ERR for dm7?
10334  cat ../l2voicedata/allpole/loo4d:7N200S7D10L10sX0.ystat
10335  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole d:7 N:200 sX:0 ops:y:-1:1
10336  0.586 0.962 0.038 0.414 6.463e-04 700 7 #TP,TN,FP,FN,ERR,n,dm7 sX0(TP0.683 TN0.957 ER5.988e-04 n600)
smaller ERR for dm7?
10337
10338  real536m33.054s user263m45.613s sys29m3.321s
10339  kuro@kurolab-VB:~/sotu/2013/can2b$ cat ../l2voicedata/allpole/loo4s:-1N350S7D10L10sX0.ystat
10340  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:350 sX:0 ops:y:-1:1
10341  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:40 sX:0 ops:y:-1:1
10342  0.800 0.955 0.045 0.200 3.500e-04 700 1 #TP,TN,FP,FN,ERR,n,sml sX0(TP0.800 TN0.994 ER3.433e-04 n600)
10343  0.740 0.953 0.047 0.260 4.381e-04 700 1 #TP,TN,FP,FN,ERR,n,sm2 sX0(TP0.740 TN0.950 ER5.167e-04 n600)
10344  0.670 0.887 0.113 0.330 6.333e-04 700 4 #TP,TN,FP,FN,ERR,n,sm3 sX0(TP0.670 TN0.912 ER6.967e-04 n600)
10345  0.780 0.925 0.075 0.220 4.214e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX0(TP0.780 TN0.964 ER4.267e-04 n600)
10346  0.660 0.915 0.085 0.340 6.071e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.660 TN0.930 ER6.833e-04 n600)
10347  0.730 0.938 0.062 0.270 4.738e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX0(TP0.730 TN0.942 ER5.467e-04 n600)
10348
10349
10350  real289m23.012s user26m18.379s sys23m22.824s
10351  cat ../l2voicedata/allpole/loo4s:-1N40S7D10L10sX0.ystat
10352  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:40 sX:0 ops:y:-1:1
10353  0.75000 0.90333 0.09667 0.25000 4.95238e-04 700 1 #TP,TN,FP,FN,ERR,n,sml
10354  0.61000 0.86500 0.13500 0.39000 7.50000e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10355  0.61000 0.82500 0.17500 0.39000 8.07143e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
10356  0.73000 0.85000 0.15000 0.27000 6.00000e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10357  0.59000 0.82000 0.18000 0.41000 8.42857e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10358  0.62000 0.86333 0.13667 0.38000 7.38095e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10359  0.590 0.820 0.180 0.410 8.429e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.590 TN0.590 ER9.667e-04 n600)
10360  0.620 0.863 0.137 0.380 7.381e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX0(TP0.620 TN0.854 ER8.767e-04 n600)
10361  cat ../l2voicedata/allpole/loo4s:5N350S7D10L10sX0.ystat
10362  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:5 N:100 sX:0 ops:y:-1:1
10363  0.640 0.913 0.087 0.360 6.381e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.640 TN0.914 ER7.433e-04 n600)
10364  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:5 N:200 sX:0 ops:y:-1:1
10365  0.600 0.935 0.065 0.400 6.643e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.600 TN0.940 ER7.667e-04 n600)
10366  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ***?
i:10 k:36 dir:../l2voicedata/allpole s:5 N:300 sX:0 ops:y:-1:1 ***?
10367  0.650 0.923 0.077 0.350 6.095e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.650 TN0.936 ER6.900e-04 n600)
10368  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:5 N:350 sX:0 ops:y:-1:1 ***minERR
10369  0.660 0.915 0.085 0.340 6.071e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX0(TP0.660 TN0.930 ER6.833e-04 n600)
10370  #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:5 N:400 sX:0 ops:y:-1:1
10371
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10371   0.650 0.918 0.082 0.350 6.167e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sXO(TP0.650 TN0.930 ER7.000e-04 n600)
10372   #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole si:5 N:500 sX:0 ops:y:-1:1
10373   0.610 0.917 0.083 0.390 6.762e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sXO(TP0.610 TN0.930 ER7.667e-04 n600)
10374   :kyu ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:20 sX:0 "ops:y:-1:1 r:2:1:0"
10375   cat ../l2voicedata/allpole/loo4s:-1N20S7D10L110sX0.y
10376   #loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 dir:../l2voicedata/allpole s:-1 N:20 sX:0 ops:y:-1:1
10377   0.780 0.858 0.142 0.220 5.16Te-04 700 1 #TP,TN,FP,FN,ERR,n,sm1 sX(TP0.780 TN0.906 ER600.000 n0)
10378   0.660 0.868 0.132 0.340 6.738e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2 sX(TP0.660 TN0.870 ER600.000 n0)
10379   0.740 0.815 0.185 0.260 6.357e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3 sX(TP0.740 TN0.852 ER600.000 n0)
10380   0.740 0.872 0.128 0.260 5.548e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4 sX(TP0.740 TN0.898 ER600.000 n0)
10381   0.630 0.822 0.178 0.370 7.833e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5 sX(TP0.630 TN0.812 ER600.000 n0)
10382   0.580 0.805 0.195 0.420 8.786e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6 sX(TP0.580 TN0.786 ER600.000 n0)
10383   #???
10384   #??time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi
:kyu ntxi:10 k:36 dir:../l2voicedata/allpole si:-1 N:300 sX:0 "ops:y:-1:1"
10385   #??
10386   #??real466m9.708s user204m35.287s sys26m45.088s
10387   #??cat ../l2voicedata/allpole/loo4s:-1N300S7D10L110sX0.ystat
10388   #??:0.84000 0.95833 0.04167 0.16000 2.88095e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1
10389   #??:0.68000 0.95167 0.04833 0.32000 5.26190e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10390   #??:0.68000 0.87333 0.12667 0.32000 6.38095e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
10391   #??:0.79000 0.93000 0.07000 0.21000 4.00000e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10392   #??:0.65000 0.92333 0.07667 0.35000 5.09524e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10393   #??:0.75000 0.93500 0.06500 0.25000 4.50000e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10394   #???
10395   #??time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi
:kyu ntxi:10 k:36 dir:../l2voicedata/allpole di:-1 N:300 sX:0 ops:y:-1:1
10396   #??real771m24.283s user337m53.107s sys42m33.268s
10397   #??cat ../l2voicedata/allpole/loo4d:-1N300S7D10L110sX0.ystat
10398   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole di:-1 N:300 sX:0 ops:y:
-1:1
10399   #??:0.82857 0.97937 0.02063 0.17143 2.74376e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0
10400   #??:0.77143 0.97937 0.02063 0.22857 3.56009e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1
10401   #??:0.80000 0.96190 0.03810 0.20000 3.40136e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2
10402   #??:0.72857 0.94603 0.05397 0.27143 4.64853e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3
10403   #??:0.80000 0.93175 0.06825 0.20000 3.83220e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
10404   #??:0.95714 1.00000 0.00000 0.04286 6.12245e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5
10405   #??:0.58571 0.97937 0.02063 0.41429 6.12315e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
10406   #??:0.57143 0.95873 0.04127 0.42857 6.71202e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
10407   #??:0.55714 0.98095 0.01905 0.44286 6.59864e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
10408   #??:0.84286 0.99683 0.00317 0.15714 2.29025e-04 700 9 #TP,TN,FP,FN,ERR,n,txm9
10409   #??
10410   #??cat ../l2voicedata/allpole/loo4d:-1N300S7D10L110sX0.ystat
10411   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole di:-1 N:300 sX:0 ops:y:
-1:1
10412   #??:0.14493 0.90047 0.09953 0.85507 1.35983e-03 702 0 #TP,TN,FP,FN,ERR,n,txm0    ????
10413   #??:0.62745 0.95686 0.04314 0.37255 5.93846e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1
10414   #??:0.80000 0.96190 0.03810 0.20000 3.40136e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2
10415   #??:0.72857 0.94603 0.05397 0.27143 4.64853e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3
10416   #??:0.80000 0.93175 0.06825 0.20000 3.83220e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
10417   #??:0.95714 1.00000 0.00000 0.04286 6.12245e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5
10418   #??:0.58571 0.97937 0.02063 0.41429 6.12315e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
10419   #??:0.57143 0.95873 0.04127 0.42857 6.71202e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
10420   #??:0.55714 0.98095 0.01905 0.44286 6.59864e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
10421   #??:0.84286 0.99683 0.00317 0.15714 2.29025e-04 700 9 #TP,TN,FP,FN,ERR,n,txm9
10422   #??cat ../l2voicedata/allpole/loo4d:-1N300S7D10L110sX0.ystat
10423   #??#loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi
:kyu ntxi:10 k:36 dir:../l2voicedata/allpole si:-1 N:20 sX:0 "ops:y:-2:2"
10424   #??real832m39.025s user368m54.787s sys45m47.736s cat ../l2voicedata/allpole si:-1 N:20 sX:0 ops:y:-
.ystat
10425   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole si:-1 N:20 sX:0 ops:y:-
2:2
10426   #??:0.76000 0.85000 0.15000 0.24000 5.57143e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1
10427   #??:0.61000 0.86000 0.14000 0.39000 7.57143e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10428   #??:0.72000 0.77833 0.22167 0.28000 8.73810e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
10429   #??:0.72000 0.87000 0.13000 0.28000 5.85714e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10430   #??:0.62000 0.83000 0.17000 0.38000 7.85714e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10431   #??:0.55000 0.79667 0.20333 0.45000 9.33333e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10432   #??
10433   #??time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi
:kyu ntxi:10 k:36 dir:../l2voicedata/allpole si:-1 N:20 sX:0 "ops:y:-1:1"
10434   #??real261m57.174s user16m2.784s sys20m47.058s cat ../l2voicedata/allpole/loo4s:-1N20S7D10L110sX0.ys
tat
10435   #??mv ../l2voicedata/allpole/loo4s:-1N20S7D10L110sX0.y ../l2voicedata/allpole/loo4s:-1N20S7D10L110s
X0-0.y
1:1
10436   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:-1 N:20 sX:0 ops:y:-
1:1
10437   #??:0.78000 0.85833 0.14167 0.22000 5.16667e-04 700 1 #TP,TN,FP,FN,ERR,n,sm1
10438   #??:0.66000 0.86833 0.13167 0.34000 6.73810e-04 700 2 #TP,TN,FP,FN,ERR,n,sm2
10439   #??:0.74000 0.81500 0.18500 0.26000 6.35714e-04 700 3 #TP,TN,FP,FN,ERR,n,sm3
```

```
10440   #??:0.74000 0.87167 0.12833 0.26000 5.54762e-04 700 4 #TP,TN,FP,FN,ERR,n,sm4
10441   #??:0.63000 0.82167 0.17833 0.37000 7.83333e-04 700 5 #TP,TN,FP,FN,ERR,n,sm5
10442   #??:0.58000 0.80500 0.19500 0.42000 8.78571e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10443   #??time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi
:kyu ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:20 sX:0 "ops:y:-1:1 r:2:1:0"
10444   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:20 sX:0 ops:y:-1
:1 r:2:1:0
10445   #??:0.58000 0.80500 0.19500 0.42000 8.78571e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10446   #??cat ../l2voicedata/allpole/loo4s:6N20S7D10L110sX0.ystat
10447   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:20 sX:0 ops:y:-2
:2 r:2:1:0
10448   #??:0.91000 0.18667 0.81333 0.09000 1.29048e-03 700 6 #TP,TN,FP,FN,ERR,n,sm6
10449   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:40 sX:0 ops:y:-1
:1
10450   #??:0.62000 0.86333 0.13667 0.38000 7.3809e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10451   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:80 sX:0 ops:y:-1
:1
10452   #??:0.67000 0.90500 0.09500 0.33000 6.07143e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10453   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole s:6 N:200 sX:0 ops:y:-
1:1
10454   #??:0.71000 0.93167 0.06833 0.29000 5.11905e-04 700 6 #TP,TN,FP,FN,ERR,n,sm6
10455   #???
10456   #??real1440m20.797s user28m21.286s sys34m44.454s cat ../l2voicedata/allpole/loo4d:-1N20S7D10L110sX0.y
stat
10457   #??mv ../l2voicedata/allpole/loo4d:-1N20S7D10L110sX0.y ../l2voicedata/allpole/loo4d:-1N20S7D10L110sX0.
-0.y
10458   #??#loo4speakerdigit+ sp:fhs tx:zero ntxi:10 k:36 dir:../l2voicedata/allpole di:-1 N:20 sX:0 ops:y:-
1:1
10459   #??:0.65714 0.93492 0.06508 0.34286 5.82766e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0
10460   #??:0.57143 0.95873 0.04127 0.42857 6.71202e-04 700 1 #TP,TN,FP,FN,ERR,n,txm1
10461   #??:0.64286 0.91746 0.08254 0.35714 6.28118e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2
10462   #??:0.52857 0.88095 0.11905 0.47143 8.43537e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3
10463   #??:0.50000 0.88889 0.11111 0.50000 8.73016e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
10464   #??:0.41429 0.96500 0.03500 0.18571 3.15193e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5
10465   #??:0.60000 0.86508 0.13492 0.40000 7.64172e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
10466   #??:0.50000 0.89206 0.10794 0.50000 8.68481e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
10467   #??:0.60000 0.90952 0.09048 0.40000 7.00680e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
10468   #??:0.80000 0.97937 0.02063 0.20000 3.15193e-04 700 9 #TP,TN,FP,FN,ERR,n,txm9
10469
10470
10471
10472
10473   (1) for learning by CAN2, try ops:"y:-2:2" for better identification rate
10474   time loo4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 k:36 dir:../l2voicedata/allpole s:2 N:20 sX:0 "ops:y:-2:2"
10475
10476   (2)
10477   iCs=1; iCd=1;
10478   iCs=1; iCd=1;
10479   iCs=0; iCd=1;
10480   iCs=0; iCd=0;
10481   #iCs=0; iCd=2;
10482   #iCs=0; iCd=3;
10483   #iCs=0; iCd=4;
10484   #iCs=0; iCd=5;
10485   pAd=0.96;iCs=0;iCd=0:speakerdigit_v3 fs:../l2voicedata/allpole/loo4s:-1N40S7D10L110sX0.y fd:../l2voic
edata/allpole/loo4d:-1N40S7D10L110sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 sdP:0:0:1
:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:$pAd:15 LAR:0.5:0:0 test:5:1000:${iCs}${iC
d}:5 sX:0 usevoid:1
10486   t15 ps0.564U0.104Dm0.106Up0.102LC0.102-0.875 iC0=TR0:FA0:SR0 C1000=TA10:FR990:SA0 pApAd0.5:0.96 LAR0.
:5:0:0 iCT0:0/5 midiv-2 dA11 pd0.803U0.163Um0.244Up0.101
10487   t15 ps0.563U0.108Um0.108Up0.103LC0.102-0.875 iC1000=TA0:FR0:SR0 C0=TA0:FR1000:FA0:SR0 pApAd0.5:0.96 LAR0.
:5:0:0 iCT0:1/5 midiv-2 dA0 pd0.71U0.165Um0.239Up0.110
10488   t15 ps0.563U0.103Dm0.104Up0.102LC0.105-0.875 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SR0 pApAd0.5:0.96 LAR0.
:5:0:0 iCT0:2/5 midiv-2 dA0 pd0.575U0.140Um0.173Up0.111
10489
10490   pAd=0.6;iCs=0;iCd=0:speakerdigit_v3 fs:../l2voicedata/allpole/loo4s:-1N40S7D10L110sX0.y fd:../l2voice
data/allpole/loo4d:-1N40S7D10L110sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 sdP:0:0:1:
2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:$pAd:15 LAR:0.5:0:0 test:5:1000:${iCs}${iC
d}:5 sX:0 usevoid:1
10491   t15 ps0.581U0.103Dm0.113Up0.093LC0.102-0.875 iC0=TR0:FA0:SR0 C1000=TA0:FR0:SA0 pApAd0.5:0.6 LAR0.
:5:0:0 iCT0:0/5 midiv-2 dA970 pd0.859U0.093Um0.134Up0.058 #pAd=0.6;iCs=0;iCd=0;
10492   t15 ps0.577U0.103Dm0.111Up0.095LC0.102-0.875 iC1000=TR305:FA695:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.6 LAR0.
:5:0:0 iCT0:1/5 midiv-2 dA914 pd0.75TU0.103Um0.131Up0.077 #pAd=0.6;iCs=0;iCd=1;
10493   t15 ps0.575U0.103Dm0.113Up0.094LC0.102-0.875 iC1000=TR569:FA431:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.6 LAR0.
:5:0:0 iCT0:2/5 midiv-2 dA565 pd0.601U0.110Um0.128Up0.094 #pAd=0.6;iCs=0;iCd=2;
10494
10495   t15 ps0.581U0.113Up0.093LC0.093LC0.102-0.875 iC0=TR0:FA0:SR0 C1000=TA30:FR670:SA0 pApAd0.5:0.9 LAR0.
:5:0:0 iCT0:0/5 midiv-2 dA412 pd0.859U0.093Um0.134Up0.058 #pAd=0.9;iCs=0;
10496   t15 ps0.577U0.103Dm0.111Up0.095LC0.102-0.875 iC1000=TR983:FA17:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
:5:0:0 iCT0:1/5 midiv-2 dA18 pd0.757U0.103Um0.131Up0.077       #pAd=0.9;iCs=0;iCd-1;
10497   t15 ps0.575U0.103Dm0.113Up0.094LC0.102-0.875 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.9 LAR0.
```

[Page 163 and Page 164 contain dense line-numbered log/data output from readmecan2mspeech.txt (lines ~10498–10630), consisting of file paths, command invocations, and numeric measurement columns that are not legibly resolvable for exact transcription.]

```
10631 f=fs:../12voicedata/allpole/loo4s:-1N40S7D10L10sX0.y
10632 fd=fd:../12voicedata/allpole/loo4d:-1N40S7D10L10sX0.y
10633 test=test:5:1000:${iCs}:${iCd}:${T}:pApAdT=pApAdT:0.5:0.96:${iCd}:${T}:LAR=LAR:0.5:0:${nA};ver=ver:-2; #be
      st for ver:-2 #for No6
10634 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${iCd};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #b
      est for ver:-2 #for No5
10635 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${iCd};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #b
      est for ver:-2 #for No4
10636 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.97:50;LAR=LAR:0.5:0:${nA};ver=ver:-2; #best
      -for ver:-2
10637 echo "#$test:$pART:$LAR"
10638 cmd="speakerdigit_v3 $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $LA
      R $test";
10639 echo $cmd; $cmd;
10640 echo "#Done for $test:$pART:$LAR"
10641 cmd1="cp tmp/testsd_stat.dat ../12voicedata/allpole/test2_s+d1000_C$[C]_v-2_No$[No].dat"
10642 echo $cmd1; $cmd1;
10643 done
10644
10645 speakerdigit_v3 fs:../12voicedata/allpole/loo4s:-1N40S7D10L10sX0.y fd:../12voicedata/allpole/loo4d:-
1N40S7D10L10sX0.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:1 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1
sdT:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:0.96:15 LAR:0.5:0:0 test:5:1000:5 test:5:1000:10:5 nX:0
10646 emacs tmp/testsd.dat
10647 #cf loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:
2 tdisp:4 beta:.6 PNr:.8 void:1 gibbs:1 mex:0
10648
10649 #Expl:after setting default environment 2013/02/27
10650 t5 ps0.215U0.104Um0.082Up0.127LC0.045-0.989 iC1000=TR1000.C0.002-0.989 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0.
5:0:0 iCT1:0/5 midiv-2 dA0 pd0.628U0.240Um0.324Up0.174
10651 t5 ps0.499U0.204Um0.166Up0.246LC0.068-0.989 iC1000=TR0:FA0:SR0 C1000=TA0:FR1000:SA0 pApAd0.5:0.96 LAR0.
5:0:0 iCT0:0/5 midiv-2 dA0 pd0.638U0.232Um0.318Up0.166
10652
10653 2013/08/13 for iconip2013
10654 [0] Set the default environment: Do 0 at 2013/02/27
10655
10656
10657 話者+数字照合 : ver=-2でしきい値の最適化
10658 (1)0/5指定話者+5/5指定数字列のテスト、
10659 (2)5/5指定話者+5/5指定数字列のテスト、
10660 (3)5/5指定話者+4/5指定数字列のテスト、
10661 (4)5/5指定話者+3/5指定数字列のテスト、
10662 (5)5/5指定話者+2/5指定数字列のテスト、
10663
10664 #Expl:after setting default environment 2013/02/27
10665 #No=1;T=5;nA=1:for C in 1 2 3 4 5 6 7; do
10666 #No=2;T=5;nA=0:for C in 1 2 3 4 5 6 7; do
10667 #No=3;T=10;nA=0:for C in 2; do
10668 #No=4;T=6;nA=0:TD=48:for C in 1 2 3 4 ; do
10669 #No=5;T=6;nA=0:TD=24:for C in 1 2 3 4 ; do
10670 No=6;T=5;nA=0:TD=50:for C in 1 2 3 4 ; do
10671 if [ "$C" = "1" ]; then iCs=0; iCd=0; fi
10672 if [ "$C" = "2" ]; then iCs=0; iCd=1; fi
10673 if [ "$C" = "3" ]; then iCs=0; iCd=2; fi
10674 if [ "$C" = "4" ]; then iCs=0; iCd=3; fi
10675 if [ "$C" = "5" ]; then iCs=0; iCd=4; fi
10676 if [ "$C" = "6" ]; then iCs=0; iCd=5; fi
10677 if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
10678 test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${TD};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #be
st for ver:-2 #for No6
10681 echo "#$test:$pART:$LAR"
10682 cmd="speakerdigit_v2 $fsd $nSDL $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $LAR $
test"; cmd="speakerdigit_v2 $fsd $nSDL $fsd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $L
10683 #cmd="speakerdigit_v2 $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $L
AR $test"
10684 #cmd="speakerdigit_v $fsd    $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR
$test";$cmd
10685 echo $cmd; $cmd;
10686 echo "#Done for $test:$pART:$LAR"
10687 cmd1="cp tmp/testsd_stat.dat ../../2012/12voicedata/allpole/test2_sd1000_C$[C]_v-2_No$[No].dat"
10688 echo $cmd1; $cmd1;
10689 done
10690 (1)t5 ps0.035U0.024Um0 dA0 pd0.035U0.042Um0.016Up0.070
R0.5:0:0 iCT1:0/5 midi3v-2 dA0 pd0.03500.024Um0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LA
10691 (2)t5 ps0.979U0.048Um0.122Up0.011LC0.022-0.999 iC1000=TR0:FA0:SR0 C1000=TA918:FR82:SA0 pApAd0.5:0.96 LA
R0.5:0:0 iCT0:0/5 midi3v-2 dA918 pd0.979U0.048Um0.122Up0.011
10692 (3)t5 ps0.939U0.092Um0.168Up0.037LC0.002-0.999 iC1000=TR457:FA457:FA543:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 L
$test";$cmd
AR0.5:0:0 iCT0:0/5 midi3v-2 dA543 pd0.939U0.092Um0.168Up0.037
10693 (4)t5 ps0.806U0.166Um0.243Up0.100LC0.002-0.999 iC1000=TR995:FA5:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR
0.5:0:0 iCT0:2/5 midi3v-2 dA5 pd0.806U0.166Um0.243Up0.100
10694 (5)t5 ps0.484U0.181Um0.204Up0.159LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LA
```

```
R0.5:0:0 iCT0:3/5 midi3v-2 dA0 pd0.484U0.181Um0.204Up0.159
10695
10696 (1)t15 ps0.035U0.024Um0.014Up0.034LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 L
AR0.5:0:0 iCT1:0/5 midi3v-2 dA0 pd0.035U0.024Um0.014Up0.034
10697 (1)t15 ps0.035U0.024Um0.014Up0.034LC0.002-0.999 iC1000=TR1000:FA0:SR0 pApAd0.5:0.96 L
10698 (2)t15 ps0.987U0.010Um0.022Up0.003LC0.035-0.999 iC0=TR0:FA0:SR0 C1000=TA980:FR20:SA0 pApAd0.5:0.96 L
10699 (3)t15 ps0.970U0.033Um0.064Up0.013LC0.002-0.999 iC1000=TR167:FA833:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96
LAR0.5:0:0 iCT0:1/5 midi3v-2 dA833 pd0.970U0.033Um0.064Up0.013
10700 (4)t15 ps0.876U0.084Um0.132Up0.047LC0.002-0.999 iC1000=TR999:FA1:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LA
R0.5:0:0 iCT0:2/5 midi3v-2 dA1 pd0.876U0.084Um0.132Up0.047
10701 (5)t15 ps0.554U0.133Um0.156Up0.111LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 L
AR0.5:0:0 iCT0:3/5 midi3v-2 dA0 pd0.554U0.133Um0.156Up0.111
10702
10703 2013/05/26 for iconip2013
10704 [0] Set the default environment: Do 0 at 2013/02/27
10705 [1]
10706 新者+数字照合 : ver=-2でしきい値の最適化
10707 [1]
10708 (1)0/5指定話者+5/5指定数字列のテスト、
10709 (2)5/5指定話者+5/5指定数字列のテスト、
10710 (3)5/5指定話者+4/5指定数字列のテスト、
10711 (4)5/5指定話者+3/5指定数字列のテスト、
10712 (5)5/5指定話者+2/5指定数字列のテスト、
10713
10714 #Expl:after setting default environment 2013/02/27
10715 #No=1;T=5;nA=1:for C in 1 2 3 4 5 6 7; do
10716 #No=2;T=5;nA=0:for C in 1 2 3 4 5 6 7; do
10717 #No=3;T=10;nA=0:for C in 2; do
10718 #No=4;T=6;nA=0:TD=48:for C in 1 2 3 4 ; do
10719 #No=5;T=6;nA=0:TD=24:for C in 1 2 3 4 ; do
10720 No=6;T=5;nA=0:TD=50:for C in 1 2 3 4 ; do
10721 if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
10722 if [ "$C" = "2" ]; then iCs=0; iCd=0; fi
10723 if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
10724 if [ "$C" = "4" ]; then iCs=0; iCd=2; fi
10725 if [ "$C" = "5" ]; then iCs=0; iCd=3; fi
10726 if [ "$C" = "6" ]; then iCs=0; iCd=4; fi
10727 if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
10728 test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${TD};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #be
st for ver:-2 #for No6
10729 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${iCd};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #b
10730 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.96:${iCd};${T};LAR=LAR:0.5:0:${nA};ver=ver:-2; #b
est for ver:-2 #for No5
10731 #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.97:50;LAR=LAR:0.5:0:${nA};ver=ver:-2; #best
est for ver:-2 #for No4
     #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.97:50;LAR=LAR:0.5:0:${nA};ver=ver:-2; #best
for ver:-2
10732 echo "#$test:$pART:$LAR"
10733 cmd="speakerdigit_v2 $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $LA
R $test";
10734 echo $cmd; $cmd;
10735 echo "#Done for $test:$pART:$LAR"
10736 cmd1="cp tmp/testsd_stat.dat ../12voicedata/allpole/test2_s+d1000_C$[C]_v-2_No$[No].dat"
10737 echo $cmd1; $cmd1;
10738 done
10739
10740 #for No6
10741 #for check pG_d and errorbars
10742 cd ~/sotu/2012/12voicedata/allpole/
10743 gnuplot
10744 set style data 1
10745 set xtics (0,5,10,15);set ytics (0,0.5,0.96,1.0);set grid
10746 plot [-2:15.9][-0.2:1.1] "test2_s+d1000_C2_v-2_No6.dat" using ($1):($27) t "pGd" lt 1, "" using ($1)
:($27):($27+$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C3_v-2_No6.dat" using ($1+0.2):($2
v-2_No6.dat" using ($1+0.2):($27):($27+$29):($27+$30) with yerrorbars t "" pt 6 lt 2, "test2_s+d1000_C4_
" pt 6 lt 3
10747 set term tgif;set output "pGd-t_gibbs_No6.obj";replot;set term X11
10748 !cp pGd-t_gibbs_No6.obj ~/13iconip/speech/draft/
10749 set term X11
10750 set style data 1
10751 set xtics (0,5,10,15);set ytics (0,0.5,1.0);set grid
10752 plot [-2:15.9][-0.2:1.1] "test2_s+d1000_C2_v-2_No6.dat" using ($1):($2) t "pG" lt 1, "" using ($1):(
$2):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_No6.dat" using ($1+0.2):($2)  t ""
lt 2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
10753 set term tgif;set output "pG-t_gibbs_No6.obj";replot;set term X11
10754 !cp pG-t_gibbs_No6.obj ~/13iconip/speech/draft/
10755 #gnuplot
10756 set term X11
10757 set style data 1
10758 set xtics (0,5,10,15,20,25,30,35,40,45,50);set ytics (0,20,40,60,80,100);set grid
10759 plot [-10:60][-10:100] "test2_s+d1000_C1_v-2_No6.dat" using ($1):($10*0.1) t "C1FA" lt 1, "test2_s+d
```

```
1000_C2_v-2_No6.dat" using ($1):($14*0.1) t "C2FR" lt 2, "test2_s+d1000_C3_v-2_No6.dat" using ($1):($10*0.1)
t "C3FA" lt 3, "test2_s+d1000_C4_v-2_No6.dat" using ($1):($10*0.1) t "C4FA" lt 4, "test2_s+d1000_C5_v-2_No6
.dat" using ($1):($10*0.1) t "C5FA" lt 4, "test2_s+d1000_C6_v-2_No6.dat" using ($1):($10*0.1) t "C6FA" lt 4
10760  set term tgif;set output "FAFR-t_gibbs_No6.obj";replot;set term X11
10761  !cp FAFR-t_gibbs_No6.obj ~/l3iconip/speech/draft/
10762
10763  quit
10764  ##########
10765  #Exp1:gibbs No6
10766 .t15 ps0.02lU0.016Um0.008bp0.028LC0.002-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LARO.
10767 .5:0:0 iCT0:0/5 midlv-2 dA975 pd0.986U0.014Um0.034Up0.003
...
10811  #test=test:5:1000:${iCs}:$(iCd):${iCd}:${T}:pApAdT=pApAdT:0.5:0.97:50:LAR=LAR:0.5:0:${nA};ver=ver:-2; #best
       for ver:-2
10812  echo "#$test:$pART:$LAR"
10813  cmd="speakerdigit_v2 $fs $fd $nSDL $pmin ytm:-1 $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $
LAR $test";
10814  echo $cmd; $cmd;
10815  echo "#Done for $test:$pART:$LAR"
10816  cmd1="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test2_s+d1000_C${C}_v-2_yth0_No6}.dat"
10817  echo $cmd1; $cmd1;
10818  done
10819  #for No6
10820  #for check pG and pG_d and errorbars
10821  cd ~/sotu/2012/l2voicedata/allpole/
10822  gnuplot
10823  set style data 1
10824  set xtics (0.5,10,15);set ytics (0,0.5,0.942,1.0);set grid #set xtics (0.6,12,18);set ytics (0.0,2.0
.4,0.6,0.8,1.0);
10825  plot [-2:15.9][-0.2:1.1] "test2_s+d1000_C2_v-2_yth0_No6.dat" using ($1):($27) t "pGd" lt 1, "" using
($1):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C3_v-2_yth0_No6.dat" using ($
1+0.2):($27) t "" lt 2, "" using ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 2, "test2_s
+d1000_C4_v-2_yth0_No6.dat" using ($1+0.4):($27) t "" lt 3, "" using ($1+0.4):($27):($27-$29):($27+$30) with
yerrorbars t "" pt 6 lt 3
10826  set term tgif;set output "pGd-t_yth0_No6.obj";replot;set term X11
10827  !cp pGd-t_yth0_No6.obj ~/l3iconip/speech/draft/
10828  set term x11
10829  set style data 1
10830  set xtics (0.5,10,15);set ytics (0,0.5,1.0);set grid
10831  plot [-2:15.9][-0.2:1.1] "test2_s+d1000_C2_v-2_yth0_No6.dat" using ($1):($2) t "pG" lt 1, "" using (
$1):($2):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_yth0_No6.dat" using ($1+0.2):
($2) t "" lt 2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
10832  set term tgif;set output "pG-t_yth0_No6.obj";replot;set term X11
10833  !cp pG-t_yth0_No6.obj ~/l3iconip/speech/draft/
10834  #gnuplot
10835  set term x11
10836  set style data 1
10837  set xtics (0.5,10,15,20,25,30,35,40,45,50);set ytics (0,20,40,60,80,100);set grid
10838  plot [-1:60][-10:100] "test2_s+d1000_C1_v-2_yth0_No6.dat" using ($1):($10*0.1) t "C1FA" lt 1, "test
2_s+d1000_C2_v-2_yth0_No6.dat" using ($1):($14*0.1) t "C2FR" lt 2, "test2_s+d1000_C4_v-2_yth0_No6.dat" using
($1):($10*0.1) t "C3FA" lt 3, "test2_s+d1000_C4_v-2_yth0_No6.dat" using ($1):($10*0.1) t "C4FA" lt 4
10839  set term tgif;set output "FAFR-t_yth0_No6.obj";replot;set term X11
10840  !cp FAFR-t_yth0_No6.obj ~/l3iconip/speech/draft/
10841
10842  #Exp3:ytm:-1 yth=0 T=50
...
10855  #########
10856  #Exp2:gibbs=gibbs:0; =bayes  #bayesで は分散が大きく、バラつく
10857  #No=1:T=5:nA=1:for C in 1 2 3 4 5 6 7; do
10858  #No=2:T=5:nA=0:for C in 1 2 3 4 5 6 7; do
10859  #No=3:T=10:nA=0:for C in 2; do
10860  #No=4:T=6:nA=0:TD=18:for C in 1 2 3 4; do
10861  #No=5:T=6:nA=0:TD=24:for C in 1 2 3 4; do
10862  No=6:T=5:nA=0:TD=50:for C in 1 2 3 4; do
10863  if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
10864  if [ "$C" = "2" ]; then iCs=0; iCd=1; fi
10865  if [ "$C" = "3" ]; then iCs=0; iCd=2; fi
10866  if [ "$C" = "4" ]; then iCs=0; iCd=3; fi
10867  if [ "$C" = "5" ]; then iCs=0; iCd=4; fi
10868  if [ "$C" = "6" ]; then iCs=0; iCd=5; fi
10869  if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
10870  test=test:5:1000:${iCs}:$(iCd):${iCd}:${T}:pApAdT=pApAdT:0.5:0.96:${TD};LAR=LAR:0.5:0:${nA};ver=ver:-2; #be
st for ver:-2 #for No6
10871  test=test:5:1000:${iCs}:$(iCd):${iCd}:${T}:pApAdT=pApAdT:0.5:0.965:${TD};LAR=LAR:0.5:0:${nA};ver=ver:-2; #b
```

```
       est for ver:-2  #for No5
10872   test=test:5:1000:${iCs}:${iCd}:${T}:${iCs}:${T}:pApAdT=pApAdT:0.5:0.97:${TD};LAR=LAR:0.5:0:${nA};ver=ver:-2; #be
       st for ver:-2 #for No4
10873   echo "#$test:$pART:$LAR"
10874   cmd="speakerdigit_v2 $fs  $fd $nSDL $pmin $ytm $PNr $void gibbs:0 $beta $sdP $lT $sdT $ver $pApAdT $L
       AR $test";
10875   echo $cmd; $cmd;
10876   echo "#Done for $test:$pART:$LAR"
10877   cmd1="cp tmp/testsd_stat.dat ../12voicedata/allpole/test2_s+d1000_C$(C}_v-2_bayes_No$(No}.dat"
10878   echo $cmd1; $cmd1;
10879   done
10880   #for No6
10881   cd ~/sotu/2012/12voicedata/allpole/
10882   gnuplot
10883   set style data 1
10884   set xtics (0,5,10,15):set ytics (0,0.5,0.96,1.0):set grid
10885   plot [-2:15,9][-0.2:1.1] "test2_s+d1000_C2_v-2_bayes_No6.dat" using ($1):($27) t "pGd" lt 1, "" usin
       g ($1):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C3_v-2_bayes_No6.dat" using
       ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 2, "test2
       _s+d1000_C4_v-2_bayes_No6.dat" using ($1+0.4):($2):($2+$5) with yerrorbars t "" pt 4 lt 2
       ith yerrorbars t "" pt 6 lt 3
10886   set term tgif;set output "pGd-t_bayes_No6.obj";replot;set term X11
10887   !cp pGd-t_bayes_No6.obj ~/13iconip/speech/draft/
10888   cd ~/sotu/2012/12voicedata/allpole/
10889   set term x11
10890   set style data 1
10891   set xtics (0,5,10,15):set ytics (0,0.5,1.0):set grid
10892   plot [-2:15,9][-0.2:1.1] "test2_s+d1000_C2_v-2_bayes_No6.dat" using ($1):($2) t "pG" lt 1, "" using
       ($1):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_bayes_No6.dat" using ($1+0.2
       ):($2):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2
       ):($2) t "" lt 2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
10893   set term tgif;set output "pG-t_bayes_No6.obj";replot;set term X11
10894   !cp pG-t_bayes_No6.obj ~/13iconip/speech/draft/
10895   #Exp2
10896   t15 ps0.013U0.028Um0.003Dp0.101LC0.002-0.998  iC1000=TR1000:FA0:SR0  C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
       .5:0:0 iCT1:0/5 midlv-2 dA949 pd0.959U0.144Um0.621Up0.031
10897   t15 ps0.966U0.124Um0.557Dp0.024LC0.003-0.998  iCO=TR0:FA0:SR0 C1000=TA944:FR56:SA0 pApAd0.5:0.97 LAR0
       .5:0:0 iCT0:0/5 midlv-2 dA924 pd0.970U0.115Um0.590Up0.020
10898   t15 ps0.960U0.142Um0.627Dp0.030LC0.003-0.998  iC1000=TR295:FA705:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR
       .5:0:0 iCT0:1/5 midlv-2 dA725 pd0.827U0.289Um0.508Up0.160
10899   t15 ps0.965U0.126Um0.584Dp0.025LC0.003-0.998  iC1000=TR563:FA437:SR0  C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR
       0.5:0:0 iCT0:2/5 midlv-2 dA445 pd0.655U0.386Um0.456Up0.322
10900
10901
10902   2013/05/26 f.or iconip2013 old
10903   ##################################################################################
10904   ##################################################################################
10905   話者＋数字識別　: ver=-2で しきい値の最適化
10906   (1)0/5指定話者＋5/5指定数字列のテスト、
10907   (2)5/5指定話者＋4/5指定数字列のテスト、
10908   (3)5/5指定話者＋4/5指定数字列のテスト、
10909   (4)5/5指定話者＋3/5指定数字列のテスト、
10910   (5)5/5指定話者＋2/5指定数字列のテスト、
10911   #Expl:after setting default environment 2013/02/27
10912   #No=1:T=5:nA=1:for C in 1 2 3 4 5 6 7; do
10913   #No=2:T=5:nA=0;for C in 1 2 3 4 5 6 7; do
10914   #No=3:T=10:nA=0:for C in 1 2; do
10915   #No=4:T=6:nA=0:TD=48;for C in 1 2 3 4 ; do
10916   #No=5:T=6:nA=0:TD=24;for C in 1 2 3 4 ; do
10917   if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
10918   if [ "$C" = "2" ]; then iCs=0; iCd=1; fi
10919   if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
10920   if [ "$C" = "4" ]; then iCs=0; iCd=2; fi
10921   if [ "$C" = "5" ]; then iCs=0; iCd=3; fi
10922   if [ "$C" = "6" ]; then iCs=0; iCd=5; fi
10923   if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
       st for ver:-2 #for No5
10924   test=test:5:1000:${iCs}:${iCd}:${T}:${iCs}:${T}:pApAdT=pApAdT:0.5:0.96:${TD};iAR=LAR:0.5:0:${nA};ver=ver:-2; #be
       st for ver:-2 #for No4
10925   echo "#$test:$pART:$LAR"
10926   #test=test:5:1000:${iCs}:${iCd}:${iCs}:${T}:pApAdT=pApAdT:0.5:0.96:${TD}:iAR=LAR:0.5:0.97:${nA};ver=ver:-2; #best
       for ver: -2
10927   echo "#$test:$pART:$LAR"
10928   cmd="speakerdigit_v2 $fs  $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $LA
       R $test";
10929   echo $cmd; $cmd;
10930   echo "#Done for $test:$pART:$LAR"
10931   cmd1="cp tmp/testsd_stat.dat ../12voicedata/allpole/test2_s+d1000_C$(C}_v-2_No$(No}.dat"
10932   echo $cmd1; $cmd1;
10933   done
10934   #for No5
10935   #for No4
10936   #for check pG and pG_d and errorbars
```

```
10937   cd ~/sotu/2012/12voicedata/allpole/
10938   gnuplot
10939   set style data 1
10940   set xtics (0,6,12,18):set ytics (0,0.5,0.96,1.0):set grid #set xtics (0,6,12,18):set ytics (0,0.2,0.
       4,0.6,0.8,1.0):
10941   plot [-2:20][-0.1:1.1] "test_s+d1000_C2_v-2_No4.dat" using ($1):($27) t "pGd" lt 1, "" using ($1):(
       $27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test_s+d1000_C3_v-2_No4.dat" using ($1+0.2):($27):(
       t "" lt 2, "" using ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 2, "test2_s+d1000_C4_v-
       2_No4.dat" using ($1+0.4):($27) t "" lt 3, "" using ($1+0.4):($27):($27-$29):($27+$30) with yerrorbars t ""
       pt 6 lt 3,0.1,0.97
10942   set term tgif;set output "pGd-t_gibbs_No4.obj";replot;set term X11
10943   !cp pGd-t_gibbs_No4.obj ~/13iconip/speech/draft/
10944   cd ~/sotu/2012/12voicedata/allpole/
10945   gnuplot
10946   set style data 1
10947   set xtics (0,6,12,18):set ytics (0,0.5,1.0):set grid
10948   set xtics (0,6,12,18):set ytics (0,0.5,0.96,1.0):set grid
10949   plot [-2:20][-0.1:1.1] "test_s+d1000_C2_v-2_No4.dat" using ($1):($2) t "pG" lt 1, "" using ($1):($2
       )":($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_No4.dat" using ($1+0.2):($2) t "" lt
       2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
10950   set term tgif;set output "pG-t_gibbs_No4.obj";replot;set term X11
10951   !cp pG-t_gibbs_No4.obj ~/13iconip/speech/draft/
10952   ##########
10953   #Expl:gibbs No4
10954   #T=48
10955   t18 ps0.020U0.015Um0.007Up0.027LC0.002-0.858 iC1000=TR1000:FA0:SR0  C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10956   iCT1:0/6 midlv-2 dA976 pd0.987U0.177Um0.042Dp0.003
10957   t18 ps0.981U0.300Um0.070Up0.008LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA980:FR20:SA0 pApAd0.5:0.96 LAR0
       .5:0:0 iCT0:0/6 midlv-2 dA980 pd0.987U0.120Um0.030Up0.003
10958   t18 ps0.980U0.029Um0.066Up0.009LC0.003-0.998 iC1000=TR159:FA841:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR
       0.5:0:0 iCT0:1/6 midlv-2 dA841 pd0.971U0.035Um0.071Up0.014
10959   t18 ps0.979U0.041Um0.097Up0.010LC0.003-0.998 iC1000=TR955:FA45:SR0  C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
       .5:0:0 iCT0:2/6 midlv-2 dA45  pd0.896U0.085Um0.142Up0.044
10960   t6 ps0.969U0.061Um0.136Up0.018LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:SR0  C0=TR0:FA0:SR0 LAR0
10961   t12 ps0.978U0.037Um0.084Up0.011LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:SR0  LAR0
10962   t18 ps0.981U0.030Um0.070Up0.008LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:SR0 LAR0
10963   t24 ps0.982U0.027Um0.063Up0.007LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TR0:FA0:SR0 LAR0
10964   t30 ps0.983U0.024Um0.056Up0.006LC0.003-0.998 iC0=TR0:FA0:SR0 LAR0
10965   t36 ps0.983U0.023Um0.055Up0.005LC0.003-0.998 iC0=TR0:FA0:SR0 LAR0
10966   t42 ps0.984U0.021Um0.049Up0.005LC0.003-0.998 iC0=TR0:FA0:SR0 LAR0
10967   t48 ps0.984U0.019Um0.043Up0.005LC0.003-0.998 iC0=TR0:FA0:SR0 LAR0
10968
10969   t6 ps0.961U0.089Um0.203Up0.025LC0.003-0.998 iC1000=TR849:FA151:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10970   t12 ps0.975U0.047Um0.109Up0.013LC0.003-0.998 iC1000=TR933:FA67:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10971   t18 ps0.979U0.041Um0.097Up0.010LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TR955:FA45:SR0 pApAd0.5:0.96 LAR0
10972   t24 ps0.980U0.034Um0.080Up0.009LC0.003-0.998 iC1000=TR960:FA40:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10973   t30 ps0.982U0.028Um0.064Up0.008LC0.003-0.998 iC1000=TR965:FA35:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10974   t36 ps0.983U0.022Um0.052Up0.006LC0.003-0.998 iC1000=TR973:FA27:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10975   t42 ps0.983U0.019Um0.042Up0.005LC0.003-0.998 iC1000=TR984:FA16:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
10976   t48 ps0.984U0.018Um0.039Up0.005LC0.003-0.998 iC1000=TR985:FA15:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR
10977   #T=18
10978   #T=18
10979   #t18 ps0.020U0.016Um0.007Up0.029LC0.002-0.870 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR
       0.5:0:0 iCT1:0/6 midlv-2 dA986 pd0.987U0.140Um0.034Dp0.003
10980   #t18 ps0.979U0.030Um0.067Up0.009LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA976:FR24:SA0 pApAd0.5:0.96 LAR
       0.5:0:0 iCT0:0/6 midlv-2 dA976 pd0.987U0.099Um0.022Up0.003
10981   #t18 ps0.980U0.037Um0.089Up0.009LC0.003-0.998 iC1000=TR147:FA853:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LA
       R0.5:0:0 iCT0:1/6 midlv-2 dA853 pd0.920U0.038Um0.076Up0.013
10982   #t18 ps0.981U0.026Um0.056Up0.008LC0.003-0.998 iC1000=TR943:FA57:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.96 LAR
       0.5:0:0 iCT0:2/6 midlv-2 dA57  pd0.897U0.090Um0.155Dp0.045
10983
10984   #for No5
10985   #for check pG and pG_d and errorbars
10986   cd ~/sotu/2012/12voicedata/allpole/
10987   gnuplot
```

```
10988   set style data l
10989   set xtics (0,6,12,18,24);set ytics (0,0.5,0.965,1.0);set grid #set xtics (0,6,12,18);set ytics (0,0.
2,0.4,0.6,0.8,1.0);
10990   plot [-2:26][-0.1:1.1] "test2_s+d1000_C2_v-2_No5.dat" using ($1):($27) t "pGd" lt 1, "" using ($1):(
$27):($27-$29):($27+$30) with yerrorbars t "" using ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" ($27
$27):($27-$29):($27+$30) with yerrorbars t "" using ($1+0.4):($27) t "" lt 3, "" using ($1+0.4):($27):($27-$29):($27+$30) with yerrorbars t ""
pt 6 lt 3
10991   set term tgif;set output "pGd-t_gibbs.obj";replot;set term X11
10992   !cp pGd-t_gibbs.obj ~/l3iconip/speech/draft/
10993
10994   cd ~/sotu/2012/l2voicedata/allpole/
10995   gnuplot
10996   set style data l
10997   set xtics (0,6,12,18,24);set ytics (0,0.5,1.0);set grid
10998   plot [-2:26][-0.1:1.1] "test2_s+d1000_C2_v-2_No5.dat" using ($1):($2) t "pG" lt 1, "" using ($1):($2
):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_No5.dat" using ($1+0.2):($2), t "" lt
2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
10999   set term tgif;set output "pG-t_gibbs.obj";replot;set term X11
11000   !cp pG-t_gibbs.obj ~/l3iconip/speech/draft/
11001   #for No5
11002   t24 ps0.021U0.015Um0.007Up0.025LC0.002-0.868 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
11003 :5:0:0  iCT1:0/6 midiv-2 dA992 pd0.988U0.070Um0.017Up0.002
11004 :5:0:0  t24 ps0.983U0.026Um0.057Up0.007LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA984:FR16:SA0 pApAd0.5:0.96 LAR0
11005 0:5:0:0  iCT0:1/6 midiv-2 dA984 pd0.980U0.023Um0.050Up0.008LC0.003-0.998 iC1000=TR127:FA873:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
11006 :5:0:0  t24 ps0.981U0.023Um0.050Up0.008LC0.003-0.998 iC1000=TR157:FA843:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
11007 :5:0:0  t24 ps0.981U0.029Um0.065Up0.008LC0.003-0.998 iC1000=TR979:FA21:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
11008          iCT0:2/6 midiv-2 dA21 pd0.902U0.077Um0.128Up0.040
11009          #Result is saved in tmp/testsd_stat.dat(same oder as above) and tmp/testsd.dat.
11010          #Done for test:5:1000:0:0:6:pART:.85:.20:10:LAR:0.5:0:0
11011          cp tmp/testsd_stat.dat ../l2voicedata/allpole/test2_s+d1000_C2_v-2_No4.dat
11012
11013   t24 ps0.021U0.015Um0.007Up0.025LC0.002-0.868 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.965 LAR
11014 0.5:0:0  iCT1:0/6 midiv-2 dA989 pd0.988U0.070Um0.017Up0.002
11015 0.5:0:0  t24 ps0.983U0.026Um0.057Up0.007LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA981:FR19:SA0 pApAd0.5:0.965 LAR
11016 R0.5:0:0  iCT0:1/6 midiv-2 dA843 pd0.976U0.022Um0.041Up0.010
11017 :5:0:0  t24 ps0.981U0.029Um0.065Up0.008LC0.003-0.998 iC1000=TR996:FA4:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.965 LAR0
11018          #Exp1:gibbs No4??
11019          #Exp1:gibbs No4??
11020   t18 ps0.021U0.015:0.010-0.127 LC0.002-0.997 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11021 5:0:0  iCT1:0/6 midiv-2 dA961 pd0.987U0.012
11022 :5:0:0  t18 ps0.979U0.037:0.338-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA963:FR37:SA0 pApAd0.5:0.97 LAR0.
11023 :5:0:0  iCT0:0/6 midiv-2 dA873 pd0.976U0.022Um0.041Up0.010
11024 :5:0:0  t18 ps0.979U0.038:0.482-0.990 LC0.003-0.998 iC1000=TR191:FA809:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11025 :5:0:0  iCT0:1/6 midiv-2 dA810 pd0.973U0.037
11026 :0:0  t18 ps0.978U0.034:0.390-0.990 LC0.003-0.998 iC1000=TR998:FA2:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11027 :0:0  iCT0:2/6 midiv-2 dA2 pd0.890U0.094
11028   t24 ps0.021U0.015:0.010-0.202 LC0.002-0.868 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11029 5:0:0  iCT1:0/6 midiv-2 dA980 pd0.988U0.007
11030 :5:0:0  t24 ps0.983U0.026:0.580-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA977:FR23:SA0 pApAd0.5:0.97 LAR0.
11031 :5:0:0  iCT0:1/6 midiv-2 dA977 pd0.988U0.009
11032   t24 ps0.021U0.015Um0.007Up0.025LC0.002-0.868 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0.
11033 5:0:0  iCT1:0/6 midiv-2 dA984 pd0.988U0.070Um0.017Up0.002
11034 :5:0:0  t24 ps0.981U0.023Um0.050Up0.008LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA873:FR16:SA0 pApAd0.5:0.96 LAR
11035 :5:0:0  iCT0:1/6 midiv-2 dA873 pd0.976U0.022Um0.041Up0.010
11036   t24 ps0.981U0.029Um0.065Up0.008LC0.003-0.998 iC1000=TR979:FA21:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
11037 :5:0:0  iCT0:2/6 midiv-2 dA21 pd0.902U0.077Um0.128Up0.040
11038 :5:0:0  iCT0:0/6 midiv-2 dA966 pd0.987U0.012Um0.030Up0.003
```

```
11039   t24 ps0.982U0.027Um0.063Up0.007LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA977:FR23:SA0 pApAd0.5:0.97 LAR0
11040 :5:0:0  iCT0:0/6 midiv-2 dA977 pd0.988U0.009Um0.023Up0.002
11041 :5:0:0  t30 ps0.983U0.024Um0.056Up0.006LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA980:FR20:SA0 pApAd0.5:0.97 LAR0
11042 :5:0:0  t36 ps0.983U0.023Um0.055Up0.006LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA984:FR16:SA0 pApAd0.5:0.97 LAR0
11043 :5:0:0  t42 ps0.984U0.021Um0.049Up0.005LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA989:FR11:SA0 pApAd0.5:0.97 LAR0
11044 :5:0:0  iCT0:0/6 midiv-2 dA989 pd0.989U0.004Um0.010Up0.001
11045          set style data l
11046
11047   t6 ps0.021U0.025:0.010-0.322 LC0.002-0.997 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11048 :0:0  iCT1:0/6 midiv-2 dA898 pd0.981U0.043
11049 5:0:0  t6 ps0.965U0.077:0.053-0.990 LC0.004-0.998 iC0=TR0:FA0:SR0 C1000=TA872:FR128:SA0 pApAd0.5:0.97 LAR0.
11050 :5:0:0  iCT0:1/6 midiv-2 dA505 pd0.947U0.084
11051          t6 ps0.962U0.081:0.110-0.990 LC0.003-0.998 iC1000=TR989:FA11:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11052          iCT0:2/6 midiv-2 dA11 pd0.840U0.153
11053   t18 ps0.021U0.015:0.010-0.127 LC0.002-0.997 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.98 LAR0
11054 5:0:0  iCT1:0/6 midiv-2 dA932 pd0.987U0.012
11055 :5:0:0  t18 ps0.979U0.037:0.338-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA916:FR84:SA0 pApAd0.5:0.98 LAR0
11056 :5:0:0  t18 ps0.979U0.038:0.482-0.990 LC0.003-0.998 iC1000=TR353:FA647:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.98 LAR0
11057 :5:0:0  iCT0:1/6 midiv-2 dA648 pd0.973U0.037
11058 :5:0:0  t18 ps0.979U0.034:0.390-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.98 LAR0
11059 :5:0:0  iCT0:2/6 midiv-2 dA0 pd0.890U0.094
11060          t18 ps0.980U0.034:0.420-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.98 LAR0.
11061          iCT0:3/6 midiv-2 dA0 pd0.624U0.137
11062          cd ../l2voicedata/allpole/
11063          gnuplot
11064          set xtics (0,5,10,15,20);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11065          #set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11066          plot [-0.5:20.5][-0.2:1.4] "test2_s+d1000_C1_v-2_No2.dat" using 1:2 w l, "" using 1:2:3 w errorbars
t "" pt 4 l, "test2_s+d1000_C2_v-2_No2.dat" using ($1):2 w l, "" using ($1):2:3 w errorbars t "" pt 6 lt
1, 0, 0.5, 1
11067          set term tgif;set output "test2_s+d1000-gibbs_No2.obj";replot
11068          !cp test2_s+d1000-gibbs_No2.obj ~/l3iconip/speech/draft/
11069          #Exp1:by speakerdigit_v2
11070   t20 ps0.021U0.015:0.010-0.145 LC0.002-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11071 5:0:0  iCT1:0/5 midiv-2 dA971 pd0.987U0.010
11072 :5:0:0  t20 ps0.980U0.030:0.491-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA971:FR29:SA0 pApAd0.5:0.97 LAR0.
11073 :5:0:0  t20 ps0.981U0.024:0.701-0.990 LC0.004-0.998 iC1000=TR304:FA696:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11074 :5:0:0  iCT0:1/5 midiv-2 dA696 pd0.966U0.039
11075          t20 ps0.979U0.036:0.466-0.990 LC0.003-0.998 iC1000=TR304:FA696:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5:
11076 0:0  iCT0:2/5 midiv-2 dA0 pd0.822U0.114
11077          t20 ps0.978U0.045:0.313-0.990 LC0.003-0.990 iC1000=TR240:FA760:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11078 :0:0  iCT0:3/5 midiv-2 dA0 pd0.375U0.106
11079 :0:0  t5 ps0.957U0.096:0.101-0.990 LC0.003-0.483 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11080          t5 ps0.959U0.082:0.181-0.990 LC0.003-0.990 iC1000=TR579:FA421:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
11081   t50 ps0.020U0.013:0.010-0.142 LC0.002-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5:
11082 5:0:0  t50 ps0.983U0.023:0.678-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA989:FR11:SA0 pApAd0.5:0.97 LAR0.5
11083          t50 ps0.984U0.021:0.549-0.990 LC0.003-0.998 iC1000=TR240:FA760:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11084          t50 ps0.983U0.022:0.747-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11085          t50 ps0.982U0.025:0.628-0.990 LC0.003-0.990 iC1000=TR114:FA886:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
11086          iCT0:4/5 midiv-2 dA0 pd0.062U0.014
```

```
11087  t50 ps0.984U0.021:0.741-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
11088  iCT0:5/5 midiv-2 dA0 pd0.010U0.001
11089  t100 ps0.020U0.011:0.010-0.093 LC0.002-0.870 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.988 LAR
11090  t100 ps0.986U0.014:0.809-0.990 LC0.003-0.998 iC1000=TA928:FR72:SA0 CO=TA0:FR0:SA0 pApAd0.5:0.988 LAR
11091  t100 ps0.986U0.013:0.812-0.990 LC0.003-0.998 iC1000=TR702:FA298:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.988 LA
11092  t100 ps0.985U0.016:0.831-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.988 LAR
11093  t100 ps0.984U0.017:0.763-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.988 LAR
11094  iCT0:3/5 midiv-2 dA0 pd0.381U0.077
11095  t100 ps0.020U0.011:0.010-0.093 LC0.002-0.870 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.985 LAR
...
[dense numeric data lines 11095–11131 continue in same format]
```

```
11132  iCT0:1/5 midiv-2 dA126 pd0.92U0.123
11133  #t50 ps0.020U0.013:0.010-0.142 LC0.002-0.998 iC1000=TR1000:FA0:SR0  CO=TA0:FR0:SA0 pApAd0.5:0.99 LAR0.
...
[dense numeric data lines continue in same format through ~11150]

11151  #
11152  #Exp2:gibbs=gibbs:0; ==bayes #bayesでは分散が大きく、バラつく
11153  #No=1:T=5;nA=1:for C in 1 2 3 4 5 6 7; do
11154  #No=2:T=5;nA=0:for C in 1 2 3 4 5 6 7; do
11155  #No=3:T=10;nA=0:for C in 2; do
11156  #No=4:T=6;nA=0:TD=18:for C in 1 2 3 4; do
11157  #No=5:T=6;nA=0:TD=24:for C in 1 2 3 4; do
11158  #
11159  #
11160  #Exp2:gibbs=gibbs:0; ==bayes #bayesでは分散が大きく、バラつく
11161  if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
11162  if [ "$C" = "2" ]; then iCs=0; iCd=1; fi
11163  if [ "$C" = "3" ]; then iCs=0; iCd=2; fi
11164  if [ "$C" = "4" ]; then iCs=0; iCd=3; fi
11165  if [ "$C" = "5" ]; then iCs=0; iCd=4; fi
11166  if [ "$C" = "6" ]; then iCs=0; iCd=5; fi
11167  if [ "$C" = "7" ]; then iCs=0; iCd=6; fi
11173  test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.965:${TD};LAR=LAR:0.5:0.965:${TD}
       ...ver-2: #b
11174  test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.97:${TD};LAR=LAR:0.5:0.97:${TD}
       est for ver:-2 #for No5
11175  echo "#$test:$pART:$LAR"                                                    ver=ver:-2: #be
11176  cmd="speakerdigit_v2 $fs $fd $nSDL $pmin $ytm $void gibbs:0 $beta $sdP $lT $sdT $ver $pApAdT $L
       AR $test";
11177  echo $cmd: $cmd;
11178  echo "#Done for $test:$pART:$LAR"
11179  cmd1="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test2_s+d1000_C${_C}_v-2_bayes_No$[No}.dat"
11180  echo $cmd1; $cmd1;
11181  done
11182  #for No5
11183  #for check pG and pG_d and errorbars
11184  cd ~/sotu/2012/l2voicedata/allpole/
11185  gnuplot
```

```
11291   t15 ps0.965U0.126:0.010-0.990 LC0.003-0.998 iC1000=TR563:FA437:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
.5:0:0 iCT0:2/5 midiv-2 dA445 pd0.655U0.386
11292   t15 ps0.965U0.125:0.010-0.990 LC0.003-0.998 iC1000=TR820:FA180:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
.5:0:0 iCT0:3/5 midiv-2 dA183 pd0.452U0.428
11293   t15 ps0.967U0.122:0.010-0.990 LC0.003-0.998 iC1000=TR995:FA5:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
:0:0 iCT0:4/5 midiv-2 dA5 pd0.194U0.350
11294   t15 ps0.963U0.137:0.010-0.990 LC0.003-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
5:0:0 iCT0:5/5 midiv-2 dA0 pd0.012U0.033
11295
11296   #Exp3:ytm:-1 yth=0
11297   #No=1:T=5:nA=i:for C in 1 2 3 4 5 6 7; do
11298   #No=2:T=5:nA=0:for C in 1 2 3 4 5 6 7; do
11299   #No=3:T=10:nA=0:for C in 2; do
11300   #No=4:T=6:nA=0:TD=48:for C in 1 2 3 4; do
11301   #No=5:T=6:nA=0:TD=24:for C in 1 2 3 4: do
11302   if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
11303   if [ "$C" = "2" ]; then iCs=0; iCd=0; fi
11304   if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
11305   if [ "$C" = "4" ]; then iCs=0; iCd=2; fi
11306   if [ "$C" = "5" ]; then iCs=0; iCd=3; fi
11307   if [ "$C" = "6" ]; then iCs=0; iCd=4; fi
11308   if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
11309   test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.959:${TD};LAR=LAR:0.5:0:${nA};ver=ver:-2: #b
est for ver:-2 #for No5
11310   test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.945:${TD};LAR=LAR:0.5:0:${nA};ver=ver:-2: #b
est for ver:-2 #for No4
11311   #test=test:5:1000-${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.963:50;LAR=LAR:0.5:0:${nA};ver=ver:-2: #bes
t for ver:-2
11312   #test=test:5:1000:${iCs}:${iCd}:${T};pApAdT=pApAdT:0.5:0.97:50;LAR=LAR:0.5:0:${nA};ver=ver:-2: #best
for ver:-2
11313   echo "#$test:$pART:$LAR"
11314   cmd="speakerdigit_v2 $fs $fd $nSDL $pmin ytm:-1 $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pApAdT $
LAR $test";
11315   echo $cmd: $cmd:
11316   echo "#Done for $test:$pART:$LAR"
11317   cmd1="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test2_s+d1000_C$[C]_v-2_yth0_No${No}.dat"
11318   echo $cmd1: $cmd1:
11319   done
11320   #for No4
11321   #for check pG and pG_d and errorbars
11322   cd ~/sotu/2012/l2voicedata/allpole/
11323   gnuplot
11324   set style data l
11325   set xtics (0,6,12,18);set ytics (0,0.5,0.945,1.0);set grid #set xtics (0,6,12,18) t "pGd" lt 1, "" using ($1
11326   plot [-2:20][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No4.dat" using ($1):($27) t "pGd" lt 1, "" using (
-4,0.6,0.8,1.0):  ;set ytics (0,0.5,0.945,1.0): "test2_s+d1000_C3_v-2_yth0_No4.dat" using ($1+
$1):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_yth0_No4.dat" using ($1+
0.2):($27) t "" lt 2, "" using ($1+0.4):($27) t "" lt 3, "" using ($1+0.4):($27-$29):($27+$30) with y
1000_C4_v-2_yth0_No4.dat" using ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 2
errorbars t "" pt 6 lt 3
11327   set term tgif;set output "pGd-t_yth0_No4.obj";replot;set term X11
11328   !cp pGd-t_yth0_No4.obj ~/13iconip/speech/draft/
11329
11330   cd ~/sotu/2012/l2voicedata/allpole/
11331   gnuplot
11332   set style data l
11333   set xtics (0,6,12,18);set ytics (0,0.5,1.0);set grid
11334   plot [-2:20][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No4.dat" using ($1):($2) t "pG" lt 1, "" using ($1
)  :($2-$4):($2+$5) ;set ytics (0,0.2,0.4,0.6,0.8,1.0):  "test2_s+d1000_C1_v-2_yth0_No2.dat" using ($1+0.2):($
2) t "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
rbars t "" pt 6 lt 1, 0.5, 1, "test2_s+d1000_C2_v-2_yth0_No2.dat" using ($1):2 w l, "" using ($1):2:3 w erro
"" pt 6 lt 1, 0, 0.5, 1, "test2_s+d1000-gibbs_yth0_No2.obj";replot
11342   #set term tgif;set output "test2_s+d1000-gibbs_yth0_No2.obj";replot
11343   !cp test2_s+d1000-gibbs_yth0_No2.obj ~/13iconip/speech/draft/
11344   #Exp3:ytm:-1 yth=0 T=48
11345   t18 ps0.015U0.012Um0.004Up0.023LC0.001-0.998 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.945 LAR
0.5:0:0 iCT1:0/6 midiv-2 dA985 pd0.98U0.200Um0.049Dp0.004
11346   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA978:FR22:SA0 pApAd0.5:0.945 LAR
0.5:0:0 iCT0:1/6 midiv-2 dA978 pd0.96U0.160Um0.039Dp0.004
0.5:0:0 iCT0:0/6 midiv-2 dA23 pd0.902U0.075Um0.122Dp0.039
0.5:0:0 iCT0:2/6 midiv-2 dA13 pd0.902U0.075Um0.122Dp0.039
11347   t18 ps0.983U0.023Um0.050Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA976:FR24:SA0 pApAd0.5:0.945 LA
R0.5:0:0 iCT0:1/6 midiv-2 dA864 pd0.968U0.044Um0.089Up0.016
11348   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iC1000=TR778:FA222:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.945 LA
R0.5:0:0 iCT0:2/6 midiv-2 dA222 pd0.893U0.088Um0.145Up0.046
11349   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.945 LA
11350
```

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11351
11352   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA983:FR17:SA0 pApAd0.5:0.94 LAR0
.5:0:0 iCT0:0/6 midiv-2 dA983 pd0.986U0.016Um0.039Dp0.004
11353   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA981:FR19:SA0 pApAd0.5:0.943 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA981 pd0.986U0.016Um0.039Dp0.004
11354   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA981:FR19:SA0 pApAd0.5:0.944 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA981 pd0.986U0.016Um0.039Dp0.004
11355   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA978:FR22:SA0 pApAd0.5:0.945 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA978 pd0.986U0.016Um0.039Dp0.004
11356   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA976:FR24:SA0 pApAd0.5:0.95 LAR0
.5:0:0 iCT0:0/6 midiv-2 dA976 pd0.986U0.016Um0.039Dp0.004
11357   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA969:FR31:SA0 pApAd0.5:0.953 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA969 pd0.986U0.016Um0.039Dp0.004
11358
11359   t18 ps0.015U0.012Um0.004Up0.023LC0.001-0.998 iC1000=TR1000:FA0:SR0 pApAd0.5:0.954 LAR
0.5:0:0 iCT1:0/6 midiv-2 dA980 pd0.98U0.200Um0.049Dp0.004
11360   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA981:FR19:SA0 pApAd0.5:0.954 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA981 pd0.986U0.016Um0.039Dp0.004
11361   t18 ps0.983U0.023Um0.050Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TR148:FA852:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.954 LA
R0.5:0:0 iCT0:1/6 midiv-2 dA852 pd0.96U0.160Um0.039Dp0.004
11362   t18 ps0.983U0.025Um0.060Up0.006LC0.002-0.999 iC1000=TR899:FA101:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.954 LA
R0.5:0:0 iCT0:1/6 midiv-2 dA101 pd0.893U0.088Um0.145U0.046
R0.5:0:0 iCT0:2/6 midiv-2 dA101 pd0.893U0.088Um0.145U0.046
11363
11364
11365   #Exp3:ytm:-1 yth=0 T=18
11367   t18 ps0.015U0.014Um0.004Up0.027LC0.001-0.998 iC1000=TR1000:FA0:SR0 pApAd0.5:0.954 LAR
0.5:0:0 iCT1:0/6 midiv-2 dA974 pd0.986U0.020Um0.049Dp0.004
11368   t18 ps0.983U0.021Um0.044Up0.006LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA976:FR24:SR0 CO=TR0:FA0:SR0 pApAd0.5:0.954 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA976 pd0.986U0.017Um0.039Dp0.004
11369   t18 ps0.983U0.023Um0.053Up0.006LC0.002-0.999 iC1000=TR144:FA856:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.954 LA
11370   t18 ps0.983U0.021Um0.047Up0.006LC0.002-0.999 iC1000=TR872:FA128:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.954 LA
R0.5:0:0 iCT0:2/6 midiv-2 dA128 pd0.895U0.096Um0.166Up0.045
11371
11372
11373   #for No5
11374   #for check pG and pG_d and errorbars
11375   cd ~/sotu/2012/l2voicedata/allpole/
11376   gnuplot
11377   set style data l
11378   set xtics (0,6,12,18,24);set ytics (0,0.5,0.965,1.0);set grid
11379   plot [-2:26][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No5.dat" using ($1):($27) t "pGd" lt 1, "" using (
$1):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C3_v-2_yth0_No5.dat" using ($1+
0.2):($27) t "" lt 2, "" using ($1+0.2):($27) t "" lt 3, "" using ($1+0.4):($27-$29):($27+$30) with y
1000_C4_v-2_yth0_No5.dat" using ($1+0.4):($27):($27-$29):($27+$30) with y
errorbars t "" pt 6 lt 3
11380   set term tgif;set output "pGd-t_yth0.obj";replot;set term X11
11381   !cp pGd-t_yth0.obj ~/13iconip/speech/draft/quit
11382   cd ~/sotu/2012/l2voicedata/allpole/
11383   gnuplot
11384   set style data l
11385   set xtics (0,6,12,18,24);set ytics (0,0.5,1.0);set grid
11386   plot [-2:26][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No5.dat" using ($1):($2) t "pG" lt 1, "" using ($1
):($2):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_yth0_No5.dat" using ($1+0.2):($
2) t "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 4 lt 2
11387   set term tgif;set output "pG-t_yth0.obj";replot;set term X11
11388   !cp pG-t_yth0.obj ~/13iconip/speech/draft/
11389   #Exp3:ytm:-1 yth=0 No5
11390   t24 ps0.016U0.015Um0.005Up0.029LC0.002-0.998 iC1000=TR1000:FA0:SR0 pApAd0.5:0.959 LAR
0.5:0:0 iCT1:0/6 midiv-2 dA984 pd0.987U0.011Um0.026Dp0.002
11391   t24 ps0.986U0.013Um0.025Up0.004LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TR132:FA868:SR0 pApAd0.5:0.959 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA983 pd0.987U0.014Um0.035Dp0.003
11392   t24 ps0.984U0.017Um0.037Up0.005LC0.002-0.999 iC1000=TR132:FA868:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.959 LA
11393   t24 ps0.985U0.017Um0.036Up0.005LC0.002-0.999 iC1000=TR979:FA21:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.959 LAR
0.5:0:0 iCT0:2/6 midiv-2 dA21 pd0.902U0.075Um0.122Dp0.039
11394
11395   t24 ps0.016U0.015Um0.005Up0.029LC0.002-0.998 iC1000=TR1000:FA0:SR0 pApAd0.5:0.96 LAR0
.5:0:0 iCT1:0/6 midiv-2 dA976 pd0.987U0.011Um0.026Dp0.002
11396   t24 ps0.986U0.013Um0.025Up0.004LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA982:FR18:SA0 pApAd0.5:0.96 LAR0
.5:0:0 iCT0:0/6 midiv-2 dA982 pd0.987U0.014Um0.035Dp0.003
11397   t24 ps0.984U0.017Um0.037Up0.005LC0.002-0.999 iC1000=TR138:FA862:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR
11398   t24 ps0.985U0.017Um0.036Up0.005LC0.002-0.999 iC1000=TR987:FA13:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.96 LAR0
.5:0:0 iCT0:2/6 midiv-2 dA13 pd0.902U0.075Um0.122Dp0.039
11399
11400   t24 ps0.016U0.015Um0.005Up0.029LC0.002-0.998 iC1000=TR1000:FA0:SR0 pApAd0.5:0.965 LAR
0.5:0:0 iCT1:0/6 midiv-2 dA976 pd0.987U0.011Um0.026Dp0.002
11401   t24 ps0.986U0.013Um0.025Up0.004LC0.002-0.999 iCO=TR0:FA0:SR0 C1000=TA979:FR21:SA0 pApAd0.5:0.965 LAR
0.5:0:0 iCT0:0/6 midiv-2 dA979 pd0.987U0.014Um0.035Dp0.003
11402   t24 ps0.984U0.017Um0.037Up0.005LC0.002-0.999 iC1000=TR165:FA835:SR0 CO=TA0:FR0:SA0 pApAd0.5:0.965 LA
```

```
R0.5:0:0 iCT0:1/6 midiv-2 dA835 pd0.975U0.027Um0.051Up0.011
11403  t24 ps0.985U0.017Um0.036Dp0.005LC0.002-0.999 iC1000=TR994:FA6:SR0  C0=TA0:FR0:SA0 pApAd0.5:0.965 LAR0
.5:0:0 iCT0:2/6 midiv-2 dA6 pd0.902U0.075Um0.122Up0.039
11405  #for No4
11406  #for check pG and pG_d and errorbars
11407  cd ~/sotu/2012/12voicedata/allpole/
11408  gnuplot
11409  set style data l
11410  set xtics (0,6,12,18);set ytics (0,0.5,0.962,1.0);set grid #set xtics (0,6,12,18);set ytics (0,0.2,0
.4,0.6,0.8,1.0);
11412  plot [-2:20][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No4.dat" using ($1):($27) t "pGd" lt 1, "" using (
$1):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C3_v-2_yth0_No4.dat" using ($1+
0.2):($27) t "" lt 2, "" using ($1+0.2):($27):($27-$29):($27+$30) with yerrorbars t "" pt 6 lt 2, "test2_s+d
1000_C4_v-2_yth0_No4.dat" using ($1+0.4):($27) t "" lt 3, "" using ($27):($27-$29):($27+$30) with y
errorbars t "" pt 6 lt 3
11413  set term tgif;set output "pGd-t_yth0_No4.obj";replot;set term X11
11414  !cp pGd-t_yth0_No4.obj ~/l3iconip/speech/draft/
11415  cd ~/sotu/2012/12voicedata/allpole/
11416  gnuplot
11417  set style data l
11418  set xtics (0,6,12,18);set ytics (0,0.5,1.0):set grid
11420  plot [-2:20][-0.1:1.1] "test2_s+d1000_C2_v-2_yth0_No4.dat" using ($1):($2) t "pG" lt 1, "" using ($1
):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 1, "test2_s+d1000_C1_v-2_yth0_No4.dat" using ($1+0.2):($
2) t "" lt 2, "" using ($1+0.2):($2):($2-$4):($2+$5) with yerrorbars t "" pt 6 lt 2
11421  set term tgif;set output "pG-t_yth0_No4.obj";replot;set term X11
11422  !cp pG-t_yth0_No4.obj ~/l3iconip/speech/draft/
11423  #cd ../12voicedata/allpole/
11424  #gnuplot
11425  #set xtics (0,6,12,18,24);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11426  #set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11427  ##plot [-5:15:18.5][1:1.4] "test2_s+d1000_C2_v-2_yth0_No2.dat" using ($1):2 w l, "" using ($1):2:3 w erro
rbars = " pt 4 lt 1, "test2_s+d1000_C1_v-2_yth0_No4.dat" using ($1):2 w l, "" using ($1):2:3 w errorbars t
11428  #set term tgif;set output "test2_s+d1000-gibbs_yth0_No2.obj";replot
11429  #cp test2_s+d1000-gibbs_yth0_No2.obj ~/l3iconip/speech/draft/
11430  #Exp3:ytm:-1 yth=0
11431  #t18 ps0.015U0.014:0.010-0.310 LC0.001-0.998 iCT0:1/6 midiv-2 dA776 pd0.970U0.042
0.5:0:0 iCT0:1/6 midiv-2 dA825 pd0.970U0.042
11432  t18 ps0.983U0.021:0.703-0.990 LC0.002-0.999 iCT0:0/6 midiv-2 dA967 pd0.986U0.020
11433  t18 ps0.983U0.021:0.760-0.990 LC0.002-0.999 iCT0:0/6 midiv-2 dA962 pd0.986U0.017
0.5:0:0 iCT0:0/6 midiv-2 dA962 pd0.986U0.017
11434  t18 ps0.983U0.023:0.697-0.990 LC0.002-0.999 iCT0:1/6 midiv-2 dA829 pd0.970U0.042
0.5:0:0 iCT0:1/6 midiv-2 dA829 pd0.970U0.042
11435  t18 ps0.983U0.021:0.760-0.990 LC0.002-0.999 iCT0:2/6 midiv-2 dA24 pd0.895U0.096
11436  t18 ps0.983U0.024:0.563-0.990 LC0.003-0.999 iCT0:3/6 midiv-2 dA0 pd0.642U0.127
.5:0:0 iCT0:3/6 midiv-2 dA0 pd0.642U0.127
11436  #Exp3:ytm:-1 yth=0
5:0:0 iCT0:1/6 midiv-2 dA967 pd0.987U0.011
11437  t24 ps0.016U0.015:0.010-0.206 LC0.010-0.987 iCT0:0/6 midiv-2 dA967 pd0.987U0.011
5:0:0 iCT0:0/6 midiv-2 dA967 pd0.987U0.011
11438  t24 ps0.986U0.013:0.747-0.990 LC0.002-0.999 iCT0:0/6 midiv-2 dA974 pd0.987U0.014
5:0:0 iCT0:0/6 midiv-2 dA974 pd0.987U0.014
11439  t24 ps0.984U0.017:0.746-0.990 LC0.002-0.999 iCT0:1/6 midiv-2 dA800 pd0.975U0.027
.5:0:0 iCT0:1/6 midiv-2 dA800 pd0.975U0.027
11440  t24 ps0.985U0.017:0.704-0.990 LC0.002-0.999 iCT0:2/6 midiv-2 dA2 pd0.920U0.075
.0:0:0 iCT0:2/6 midiv-2 dA2 pd0.920U0.075
11441  t6 ps0.020U0.049:0.010-0.925 LC0.002-0.998 iCT0:0/6 midiv-2 dA887 pd0.979U0.057
5:0:0 iCT0:0/6 midiv-2 dA887 pd0.979U0.057
11442  t6 ps0.972U0.056:0.257-0.990 LC0.002-0.999 iCT0:0/6 midiv-2 dA72 pd0.977U0.043
:0:0:0 iCT0:0/6 midiv-2 dA72 pd0.977U0.043
11443  t6 ps0.960U0.067:0.286-0.990 LC0.002-0.999 iCT0:2/6 midiv-2 dA521 pd0.944U0.097
5:0:0 iCT0:2/6 midiv-2 dA521 pd0.944U0.097
11444  t6 ps0.968U0.076:0.066-0.990 LC0.003-0.998 iCT0:1/6 midiv-2 dA12 pd0.840U0.154
5:0:0 iCT0:1/6 midiv-2 dA12 pd0.840U0.154
11446  #
11447  t5 ps0.018U0.069:0.010-0.990 LC0.002-0.998 iCT0:0/6 midiv-2 dA957 pd0.963U0.135
0:0 iCT0:0/6 midiv-2 dA972 pd0.987U0.011
11453  t5 ps0.963U0.133:0.010-0.998 iC0=TR0:FA0:SR0 C1000=TA926:FR74:FA0:SA0 pApAd0.5:0.97 LAR0.5
:0:0 iCT0:2/6 midiv-2 dA951 pd0.960U0.141
```

```
11455  t5 ps0.955U0.158:0.010-0.990 LC0.003-0.998 iC834=TR218:FA616:SR0 C166=TA156:FR10:SA0 pApAd0.5:0.97 LAR0.
AR0.5:0:0 iCT0:1/6 midiv-2 dA798 pd0.872U0.255
11456  t5 ps0.958U0.146:0.010-0.990 LC0.003-0.998 iC1000=TR481:FA519:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.
5:0:0 iCT0:2/6 midiv-2 dA533 pd0.709U0.366
11460  t24 ps0.986U0.013:0.747-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA975:FR25:SA0 pApAd0.5:0.969 LAR0
.5:0:0 iCT0:0/6 midiv-2 dA975 pd0.987U0.014
11465  t24 ps0.016U0.015:0.010-0.206 LC0.002-0.998 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.962 LAR0
-5:0:0 iCT1:0/6 midiv-2 dA982 pd0.987U0.011
11466  t24 ps0.986U0.013:0.747-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA981:FR19:SA0 pApAd0.5:0.962 LAR0
5:0:0 iCT0:0/6 midiv-2 dA981 pd0.987U0.014
11467  t24 ps0.984U0.017:0.746-0.990 LC0.002-0.999 iC1000=TR150:FA850:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.962 LAR0
0.5:0:0 iCT0:1/6 midiv-2 dA850 pd0.975U0.027
11468  t24 ps0.985U0.017:0.704-0.990 LC0.002-0.999 iC1000=TR989:FA11:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.962 LAR0
.5:0:0 iCT0:2/6 midiv-2 dA11 pd0.902U0.075
11471  t18 ps0.015U0.014:0.010-0.310 LC0.001-0.998 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.963 LAR0
-5:0:0 iCT1:0/6 midiv-2 dA965 pd0.986U0.020
11472  t18 ps0.983U0.021:0.703-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA958:FR42:SA0 pApAd0.5:0.963 LAR0
5:0:0 iCT0:0/6 midiv-2 dA958 pd0.986U0.017
11473  t18 ps0.983U0.023:0.697-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TR175:FA825:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.963 LAR
0.5:0:0 iCT0:1/6 midiv-2 dA825 pd0.970U0.042
11474  t18 ps0.983U0.021:0.760-0.990 LC0.002-0.999 iC1000=TR981:FA19:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.963 LAR0
-5:0:0 iCT0:2/6 midiv-2 dA19 pd0.895U0.096
11475  t18 ps0.983U0.024:0.563-0.990 LC0.003-0.999 iC1000=TR0 pd0.642U0.127
-5:0:0 iCT0:3/6 midiv-2 dA0 pd0.642U0.127
11477  t18 ps0.015U0.014:0.010-0.310 LC0.001-0.998 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
5:0:0 iCT1:0/6 midiv-2 dA950 pd0.986U0.020
11478  t18 ps0.983U0.021:0.703-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA947:FR53:SA0 pApAd0.5:0.97 LAR0
5:0:0 iCT0:0/6 midiv-2 dA947 pd0.986U0.017
11479  t18 ps0.983U0.023:0.697-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TR224:FA776:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
-5:0:0 iCT0:1/6 midiv-2 dA776 pd0.970U0.042
11480  t18 ps0.983U0.021:0.760-0.990 LC0.002-0.999 iC1000=TR995:FA5:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0.5
:0:0 iCT0:2/6 midiv-2 dA5 pd0.895U0.096
11481  t18 ps0.983U0.024:0.563-0.990 LC0.003-0.999 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.97 LAR0
5:0:0 iCT0:3/6 midiv-2 dA0 pd0.642U0.127
11482  #for check pGd for 1,5/6, 4/6
11483  cd ~/sotu/2012/12voicedata/allpole/
11484  gnuplot
11485  set style data lp
11486  set style data l
11487  plot [-0.5:10.5][-0.1:1.1] "test2_s+d1000_C2_v-2_No4.dat" using 1:($27) t "pGd" lt 2, "" using 1:27:
28 w errorbars, "test2_s+d1000_C3_v-2_No4.dat" using ($1+0.1):($27) t "pGd" lt 2, "" using ($1+0.1):27:28 w
errorbars, "test2_s+d1000_C4_v-2_No4.dat" usin g ($1+0.2):($27) t "pGd" lt 2, "" using ($1+0.2):27:28 w err
orbars ,0.97
11490  set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11491  plot [-0.5:10.5][-0.1:1.1] "test2_s+d1000_C2_v-2_No4.dat" using 1:($13*0.001) t "A" lt 1, "" using 1
:($14*0.001) t "R" lt 1, "" using 1:($15*0.001) t "S" lt 1, "" using 1:($26*0.001) t "AD" w l lt 2, "test2_s
+d1000_C2_v-2_bayes_No4.dat" using 1:($13*0.001) t "A" lt 2, "" using 1:($14*0.001) t "R" lt 2, "" using 1:($
15*0.001) t "S" lt 2, "test2_s+d1000_C1_v-2_yth0_No2.dat" using 1:2 w l, "" using ($1):2:3 w error
01) t "R" lt 3, "" using 1:($15*0.001) t "S" lt 3, "" using 1:($26*0.001) t "AD" lt 3, 0,1
11492  set term tgif;set output "ARS-t-2.obj";replot;set term X11
11494  !cp ARS-t-2.obj ~/l3iconip/speech/draft/
11499  ##################################
11500  #for No2
11501  cd ../12voicedata/allpole/
11502  gnuplot
11503  set xtics (0,5,10,15,20);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11504  #set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11505  plot [-0.5:20.5][-0.2:1.4] "test2_s+d1000_C1_v-2_yth0_No2.dat" using 1:2 w l, "" using ($1):2:3 w error
bars t "" pt 4 lt 1, 0, 0.5, 1
11506  set term tgif;set output "test2_s+d1000-gibbs_yth0_No2.obj";replot
11507  !cp test2_s+d1000-gibbs_yth0_No2.obj ~/l3iconip/speech/draft/
11508  #Exp3:ytm:-1 yth=0
11509  #pApAd0.5:0.966
11510  t20 ps0.016U0.016:0.010-0.222 LC0.001-0.998 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pApAd0.5:0.966 LAR0
```

```
.5:0:0  iCT1:0/5 midlv-2 dA967 pd0.987U0.014
11551 t20 ps0.983U0.023:0.589-0.990 LC0.002-0.999 iC0=TR0:FA0:SRO C1000=TA972:FR28:SA0 pApAd0.5:0.966 LAR
.5:0:0  iCT0:0/5 midlv-2 dA972 pd0.987U0.011
11552 t20 ps0.984U0.016:0.757-0.990 LC0.002-0.999 iC1000=TR0:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.966 LAR
.5:0:0  iCT0:1/5 midlv-2 dA719 pd0.964U0.044
11513 t20 ps0.983U0.026:0.552-0.990 LC0.002-0.999 iC1000=TR281:FA719:SRO C0=TA0:FR0:SA0 pApAd0.5:0.966 LAR
.5:0:0  iCT0:2/5 midlv-2 dA0 pd0.823U0.116
11514 t20 ps0.982U0.033:0.398-0.990 LC0.002-0.999 iC1000=TR1000:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.966 LAR
.5:0:0  iCT0:3/5 midlv-2 dA0 pd0.399U0.107
11515 t20 ps0.984U0.021:0.698-0.990 LC0.002-0.999 iC1000=TR1000:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.966 LAR
11516 #0.967   #0.967
.5:0:0  iCT1:0/5 midlv-2 dA966 pd0.987U0.014
11517 t20 ps0.016U0.016:0.010-0.222 LC0.001-0.998 iC1000=TR0:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.967 LAR
.5:0:0  iCT0:0/5 midlv-2 dA968 pd0.987U0.011
11518 t20 ps0.983U0.023:0.589-0.990 LC0.002-0.999 iC0=TR0:FA0:SRO C1000=TA968:FR32:SA0 pApAd0.5:0.967 LAR
.5:0:0  iCT0:1/5 midlv-2 dA714 pd0.964U0.044
11519 t20 ps0.984U0.016:0.757-0.990 LC0.002-0.999 iC1000=TR286:FA714:SRO C0=TA0:FR0:SA0 pApAd0.5:0.967 LAR
0.5:0:0 iCT0:2/5 midlv-2 dA727 pd0.964U0.044
11520 t20 ps0.983U0.026:0.552-0.990 LC0.002-0.999 iC1000=TR1000:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.967 LAR
.5:0:0  iCT0:3/5 midlv-2 dA0 pd0.399U0.107
11521 t20 ps0.982U0.033:0.398-0.990 LC0.002-0.999 iC1000=TR1000:FA0:SRO C0=TA0:FR0:SA0 pApAd0.5:0.967 LAR
11522 #0.965
```

(further data listing lines continue — 11523 through 11556)

```
11557
11558 2013/05/26 for iconip2013
11559 #new pART?
11560 #new uncertainty k=1.65 --> x = k=1(means standard deviation)
11561 pApAdT=pApAdT:<pA>:<pAd>:<T># ex. pApAdT:.5:.97:20;
11562    for <pA>=accept_prob, for speaker (conventional pR=pA)
11563    <pAd>=accept_prob for digits,
11564    <T>=decision_time.
11565
11566 make DEBUG=-g speakerdigit_v2
11567 speakerdigit_v2 fd:../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 ytm:1:
0.9:1000 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:0.
99:10 LAR:0.5:0:0 test:5:1000:0:0:5
11569 speakerdigit_v2 fs:../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.y fd:../12voicedata/allpole/oob
4d:-1N40mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 ytm:1:0.9:1000 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:
8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 pApAdT:0.5:0.99:10 LAR:0.5:0:0 test:5:1000:0:0:5
11570
11571 2013/05/20 for iconip2013
11572 #set environment variable by the script on 2013/02/27
11573 話者＋数字定話者 : ver=2で しきい値の最適化
11574 (1)/5databaseの digit列 データ、
11575 (2)/5話者定数字数字列のデータ、
11576 (3)/5話者定数字数字列のデータ、
11577 (4)/5話者定数字数字列のデータ、
11578 (5)/5話者定数字数字列のデータ、
11579 (6)/5話者定数字数字列のデータ、
11580 (7)/5話者定数字数字列のデータ、
11581 #Exp1:
11582 No=1;T=5;nA=1;for C in 1 2 3 4 5 6 7; do
11583 #No=2;T=5;nA=0;for C in 1 2 3 4 5 6 7; do
11584 #No=3;T=10;nA=0;for C in 2; do
11585 if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
11586 if [ "$C" = "2" ]; then iCs=0; iCd=0; fi
11587 if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
11588 if [ "$C" = "4" ]; then iCs=0; iCd=3; fi
11589 if [ "$C" = "5" ]; then iCs=0; iCd=4; fi
11590 if [ "$C" = "6" ]; then iCs=0; iCd=5; fi
11591 if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
11592 test=test:5:1000:${iCs}:${iCd}:${T}:pART=pART:0.5:0.5:10:LAR=LAR:0.5:0.5:10:${nA}:ver=ver:-2; #best for v
er:-2
11593 #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.7:0.15:10:LAR=LAR:0.7:0.000:1:ver=ver:-2; #best for ve
r:-2
11594 #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.6:0.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2; #best for ver
:-2
11595 if [ "$T" = "10" ]; then LAR=LAR:0.5:0:2; fi
11596 echo "#$test:$pART:$LAR"
11597 cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $Nr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";
11598 echo $cmd; $cmd
11599 #echo "#Done for $test:$pART:$LAR"
11600 cmd="cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_C${C}_v-2_No${No}.dat"
11601 echo $cmd; $cmd
11602 done
11603 #
11604 cd ../12voicedata/allpole/
11605 gnuplot
11606 set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11607 plot [-0.5:10.5][-0.4:1.4] "test_s+d1000_C1_v-2_No2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t
"" pt 4 lt 1, \
11608 "test_s+d1000_C2_v-2_No2.dat" using ($1):2 w l, "" using ($1):2:3 w errorbars t "" pt 6 lt 1, 0, 0.5
,1
11609 set term tgif;set output "test_s+d1000-gibbs_No2.obj";replot
11610 !cp test_s+d1000-gibbs_No2.obj ~/13iconip/speech/draft/
11611 ### for change of TP
11612 #No=1;T=5;nA=1;for C in 1 2 3 4 5 6 7; do
11613 (1)t5 <p>0.02U0.044:0.010-0.345 LC0.002-0.998 iC0=TR1000:FA0:SRO C1000=TR10:FR10:SA39 pAR0.5:0.5 LAR0.
5:0:1 iCT0:1/5 midlv-2 dA967
11614 (2)t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SRO C1000=TA951:FR10:SA39 pAR0.5:0.5 LAR0.
5:0:1 iCT0:2/5 midlv-2 dA961
11615 (3)t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iC0=TR0:FA0:SRO C1000=TA866:FR44:SA130 pAR0.5:0.5 LAR0
.5:0:1 iCT0:3/5 midlv-2 dA870
11616 (4)t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC0=TR0:FA0:SRO C1000=TR4:FA23:SR973 pAR0.5:0.5 LAR0.5
:0:1 iCT0:4/5 midlv-2 dA27
11617 (5)t5 <p>0.960U0.146:0.040-0.990 LC0.003-0.998 iC0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
5:0:1 iCT0:5/5 midlv-2 dA2
11618 (6)t5 <p>0.952U0.167:0.101-0.990 LC0.003-0.998 iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5:
0:1 iCT0:1/5 midlv-2 dA0
11619 (7)t5 <p>0.953U0.169:0.053-0.990 LC0.003-0.998 iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5:
5:0:1 iCT0:5/5 midlv-2 dA0
11620
11621 (1)t10 <p>0.020U0.030:0.010-0.222 LC0.002-0.859 iC1000=TR1000:FA0:SRO C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0
```

```
11621  .5:0:1 iCT0:0/5 midlv-2 dA907
11622  .5:0:1 iCT0:1/5 midlv-2 dA907    <p>0.973U0.105:0.172-0.990  LC0.003-0.998  iC0=TR0:FA0:SR0  C1000=TA878:FR1:SA121 pAR0.5:0.5 LAR
11623      (3):t10 <p>0.977U0.065:0.369-0.998  LC0.003-0.998  iC0=TR0:FA22:SR978 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
11624      (4):t10 <p>0.974U0.081:0.381-0.990  LC0.003-0.998  iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0
11625      (5):t10 <p>0.976U0.068:0.601-0.990  LC0.003-0.998  iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0
11626      (6):t10 <p>0.972U0.095:0.308-0.990  LC0.003-0.998  iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0
11627      (7):t10 <p>0.973U0.092:0.144-0.990  LC0.003-0.998  iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0
11628  .5:0:1 iCT0:5/5 midlv-2 dA0
11629  11629  #No=2:T=5:nA=0:pA=pR=LA=0.5,gibbs
11630      (1):t5 <p>0.021U0.044:0.010-0.345  LC0.002-0.998  iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
11631      (2):t5 <p>0.960U0.153:0.072-0.990  LC0.003-0.998  iC0=TR0:FA0:SR0 C1000=TA831:FR8:SA161 pAR0.5:0.5 LAR0
11632      (3):t5 <p>0.961U0.142:0.069-0.990  LC0.003-0.998  iC0=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
11633  5:0:0 iCT0:1/5 midlv-2 dA17
11634  11633  (4):t5 <p>0.956U0.163:0.062-0.990  LC0.003-0.998  iC0=TR0:FA0:SR999 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
11635  :0:0:0 iCT0:2/5 midlv-2 dA1
11636  11635  (5):t5 <p>0.960U0.146:0.040-0.990  LC0.003-0.998  iC1000=TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
```

[dense data listing continues — line-numbered records of the form
`<p>0.###U0.###:0.###-0.### LC0.###-0.### iC...=TR...:FA...:SR... C...=TA...:FR...:SA... pAR0.5:0.5 LAR0.5`
spanning lines 11621–11736 across pages 183 and 184, including sections such as
`##Table 1`, `#t.,pGC,pGiC`, `##Error Rate: FP FN ER yth [%] involving void=m7.`,
`TotalUncertainty+-0.0106289(k1.65) <ERR>=0.05`, `TotalUncertainty+-0.0145304`,
`<FN>=0.0371429+-0.0145304`, `<FP>=0.0590476(+-0.0038492)`,
`#Exp2: gibbs=gibbs:0; ==bayes  #bayesでは分散が大きく、バラつく`
and a shell-script block:]

```
11718  #Exp2: gibbs=gibbs:0; ==bayes  #bayesでは分散が大きく、バラつく
11719  #No=1:T=5:nA=1:#for C in 1 2 3 4 5 6 7; do
11720  No=2:T=5:nA=2:for C in 1 2 3 4 5; do
11721  #No=3:T=10:nA=1:for C in 1 2 3 4 5; do
11722  if [ "$C" = "1" ]; then iCs=1: iCd=0; fi
11723  if [ "$C" = "2" ]; then iCs=0: iCd=0; fi
11724  if [ "$C" = "3" ]; then iCs=0: iCd=1; fi
11725  if [ "$C" = "4" ]; then iCs=0: iCd=2; fi
11726  if [ "$C" = "5" ]; then iCs=0: iCd=3; fi
11727  if [ "$C" = "6" ]; then iCs=0: iCd=4; fi
11728  if [ "$C" = "7" ]; then iCs=0: iCd=5; fi
11729  test=test:test:5:1000:${iCs}:${iCd}:${T};pART=pART:0.5:0.5:10:LAR=LAR:0.5:0.5:$[nA]:ver=ver:-2; #best for v
11730  test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:0.5:10:LAR=LAR:0.6:.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2; #best for ver
11731  #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.7:.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2; #best for ver:
11732  #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2; #best for ve
11733  echo "#$test:$pART:$LAR"
11734  cmd="speakerdigit_v $fs ${fd $hSDL $pmin $ytm $PNr $void gibbs:0 $beta $sdP $lT $dT $ver $pART $LAR
11735  $test";
```

```
11737   echo $cmd; $cmd;
11738   echo "#Done for $test:$pART:$LAR"
11739   cmd="cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_C${c}_v-2-bayes_No${No}.dat"
11740   echo $cmd; $cmd;
11741   done
11742   ##
11743   cd ../12voicedata/allpole/
11744   gnuplot
11745   set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11746   plot [-0.5:10.5][-0.2:1.4] "test_s+d1000_C1_v-2-bayes_No2.dat" using 1:2 w l, "" using 1:2:3 w error
bars t "" pt 4 lt 1, \
11747   "test_s+d1000_C2_v-2-bayes_No2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "" pt 6 lt 1, 0, 0.5
, 1
11748   set term tgif;set output "test_s+d1000-bayes_No2.obj";replot
11749   !cp test_s+d1000-bayes_No2.obj ~/13iconip/speech/draft/
11750   ##
11751   #No=2;T=5;nA=0;rA=pR=LA=0.5,bayes
11752   (1)t5  <p>0.013U0.065:0.010-0.806 LC0.002-0.990 iC1000-TR0:FA0:SR0  C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
:0:0 iCT1:0/5 midiv-2 dA38
11753   (2)t5  <p>0.966U0.209:0.010-0.990 LC0.003-0.990 iC1000-TR0:FA0:SR0  C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
0.5:0:0 iCT0:0/5 midiv-2 dA839
11754   (3)t5  <p>0.963U0.212:0.010-0.990 LC0.003-0.990 iC1000-TR1:FA16:SR983 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
5:0:0 iCT0:1/5 midiv-2 dA17
11755   (4)t5  <p>0.966U0.234:0.010-0.990 LC0.003-0.990 iC1000-TR1:FA0:SR999 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
:0:0 iCT0:2/5 midiv-2 dA1
11756   (5)t5  <p>0.965U0.209:0.010-0.990 LC0.003-0.990 iC1000-TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:3/5 midiv-2 dA0
11757   (6)t5  <p>0.956U0.245:0.010-0.990 LC0.003-0.990 iC1000-TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:4/5 midiv-2 dA0
11758   (7)t5  <p>0.961U0.228:0.010-0.990 LC0.003-0.990 iC1000-TR0:FA0:SR1000 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:5/5 midiv-2 dA0
11759
11760   #house##0.5
11761   #house#t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC1000-TR0:FA0:SR0  C0=TA0:FR0:SA0 pAR0.5:0.5
LAR0.5:0:1 iCT0:0/5 midiv-2 dA870
11762   #house#t5 <p>0.960U0.234:0.010-0.990 LC0.002-0.998 iC1000-TR4:FA23:SR973 C0=TA0:FR0:SA0 pAR0.5:0.5 L
AR0.5:0:1 iCT0:2/5 midiv-2 dA27
11763   #house#t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC1000-TR0:FA0:SR0  C0=TA0:FR0:SA0 pAR0.5:0.5
LAR0.5:0:1 iCT0:0/5 midiv-2 dA961
11764   #house#t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC1000-TR4:FA23:SR39 pAR0.5:0.5
LAR.5:0:1 iCT0:1/5 midiv-2 dA961
11765   #house#
11766   #house#
11767   #house#(1)t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC1000-TA938:FR23:SA39 pAR0.5:0.5
LAR0.5:0:1 iCT0:0/5 midiv-2 dA957
11768   #house#(2)t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC1000-TA856:FR14:SA130 pAR0.6:0
.1 LAR0.7:0:1 iCT0:1/5 midiv-2 dA863
11769   #house#(3)t5 <p>0.960U0.234:0.010-0.990 LC0.003-0.998 iC999-TR0:FA16:SR983 C1=TA0:FR1:SA0 pAR0.6:0.1
LAR0.7:0:1 iCT0:2/5 midiv-2 dA19
11770   #house#(4)t5 <p>0.960U0.234:0.010-0.990 LC0.002-0.998 iC1000-TR998:FA2:SR0 C0=TA0:FR0:SA0 pAR0.6:0.1
LAR0.7:0:1 iCT0:1/5 midiv-2 dA967
11771
11772   #Exp3:ytm:-1 no-tuning of yth
11773   #yth=0で は、pAを小さくしても、TAが大きくできない。なぜか？FNが大きい？pGの分散も大きいです？
11774   No=2;T=5;nA=1;#for C in 1 2 3 4 5 6 7; do
11775   #No=1;T=5;nA=1;#for C in 1 2 3 4 5 6 7; do
11776   No=2;T=5;nA=0;for C in 1 2 3 4 5; do
11777   if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
11778   if [ "$C" = "2" ]; then iCs=0; iCd=0; fi
11779   if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
11780   if [ "$C" = "4" ]; then iCs=0; iCd=2; fi
11781   if [ "$C" = "5" ]; then iCs=0; iCd=3; fi
11782   if [ "$C" = "6" ]; then iCs=0; iCd=4; fi
11783   if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
11784   test=test:t5:1000:${iCs}:${iCd}:${T}:pART=pART:0.5:5:10:LAR=LAR:0.5:0:$(nA):ver=ver:-2: #best for v
er:-2
11785   test=test:t5:1000:${iCs}:${iCd}:${iCs}:${iCd}:5:pART=pART:0.5:5:10:LAR=LAR:0.5:0:1:ver=ver:-2: #best for ver:-2
11786   #test=test:t5:1000:${iCs}:${iCd}:5:pART=pART:0.5:5:10:LAR=LAR:0.6:15:10:LAR=LAR:0.7:0:000:1:ver=ver:-2: #best for ver
:-2
11787   #test=test:t5:1000:${iCs}:${iCd}:5:pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ve
r:-2
11788   #test=test:t5:1000:${iCs}:${iCd}:5:pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ve
11789   echo "#${test:$pART:$LAR"
11790   cmd="speakerdigit_v $fs $fd $nSDL $pmin ytm:-1 $PNr $void $gibbs $beta $sdP $sdT $ver $pART $LAR
$test";
11791   echo $cmd; $cmd;
11792   echo "#Done for $test:$pART:$LAR"
11793   cmd="cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_C${c}_v-2-yth0_No${No}.dat"
11794   echo $cmd; $cmd;
11795   done
11796   ###
11797   cd ../12voicedata/allpole/
```

```
11798   gnuplot
11799   set xtics (0,1,2,3,4,5,6,7,8,9,10);set ytics (0,0.2,0.4,0.6,0.8,1.0);
11800   plot [-0.5:10.5][-0.2:1.4] "test_s+d1000_C1_v-2-yth0_No2.dat" using 1:2 w l, "" using 1:2:3 w errorb
ars t "" pt 4 lt 1, \
11802   "test_s+d1000_C2_v-2-yth0_No2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "" pt 6 lt 1, 0, 0.5,
1
11803   set term tgif;set output "test_s+d1000-yth0_No2.obj";replot
11804   !cp test_s+d1000-yth0_No2.obj ~/13iconip/speech/draft/
11805   ##
11806   #Exp3.No=2;T=5;nA=0;rA=pR=LA=0.5, bayes, yth=0
11807   (1)t5 <p>0.018U0.075:0.010-0.888 LC0.002-0.999 iC1000-TR999:FA1:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
:0:0 iCT1:0/5 midiv-2 dA778
11808   (2)t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C1000=TA773:FR3:SA224 pAR0.5:0.5 LAR0
.5:0:0 iCT0:0/5 midiv-2 dA776
11809   (3)t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:1/5 midiv-2 dA14
11810   (4)t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:2/5 midiv-2 dA0
11811   (5)t5 <p>0.965U0.148:0.025-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:3/5 midiv-2 dA0
11812   (6)t5 <p>0.959U0.154:0.072-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5
:0:0 iCT0:4/5 midiv-2 dA0
11813   (7)t5 <p>0.959U0.160:0.065-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.
5:0:0 iCT0:5/5 midiv-2 dA0
11814
11815   #0.5
11816   t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA928:FR4:SA68 pAR0.5:0.5 LAR0.5:0
11817   :1 iCT0:0/5 midiv-2 dA932
11818   t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA814:FR3:SA183 pAR0.5:0.5 LAR0.5:
0:1 iCT0:1/5 midiv-2 dA817
11819   t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.999 iC0=TR2:FA24:SR974 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.5:0:0
:1 iCT0:2/5 midiv-2 dA26
11820   t5 <p>0.018U0.075:0.010-0.888 LC0.002-0.999 iC1000=TR999:FA1:SR0 C0=TA0:FR0:SA0 pAR0.5:0.5 LAR0.7:0:
1 iCT1:0/5 midiv-2 dA9
11821
11822   t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA914:FR0:SA86 pAR0.6:0.15 LAR0.7:
0:1 iCT0:0/5 midiv-2 dA918
11823   t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA765:FR1:SA234 pAR0.6:0.15 LAR0.7
:0:1 iCT0:1/5 midiv-2 dA768
11824   t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.888 iC0=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.15 LAR0.7:0:0
:1 iCT0:2/5 midiv-2 dA943
11825   t5 <p>0.018U0.075:0.010-0.888 LC0.002-0.999 iC1000=TR0:FA7:SR993 C0=TA0:FR0:SA5 pAR0.6:0.15 LAR0.7:0
:1 iCT1:0/5 midiv-2 dA933
11827
11828   ##!Error Rate: FP FN ER yth [%] involving void=m7.
11829   2.000 3.000 2.143 0.000 m0
11830   1.000 8.000 2.000 0.000 m1
11831   2.833 7.000 3.429 0.000 m2
11832   2.333 9.000 3.286 0.000 m3
11833   2.667 5.000 3.000 0.000 m4
11834   2.333 7.000 3.000 0.000 m5
11835   3.333 8.000 4.000 0.000 m6
11836   #<FP>=0.0235714(+/-0.011236) <FN>=0.0671429+-0.0236139(k1.65) <ERR>=0.029
7959 nS7 nD10
11837   ##!Error Rate: FP FN ER yth [%] involving void=m10.
11838   1.000 7.143 1.571 0.000 m0
11839   1.000 5.714 1.143 0.000 m1
11840   1.270 11.429 2.286 0.000 m2
11841   1.111 5.714 1.571 0.000 m3
11842   2.063 5.714 2.429 0.000 m4
11843   1.000 10.000 1.000 0.000 m5
11844   1.000 7.143 1.571 0.000 m6
11845   1.000 10.000 1.429 0.000 m7
11846   1.746 7.143 2.286 0.000 m8
11847   1.000 1.429 0.429 0.000 m9
11848   #<FP>=0.00952381(+-0.00738646) <FN>=0.0714286+-0.0447236 TotalUncertainty+-0.0320528(k1.65) <ERR>=0.
0157143 nD10
11849
11850
11851   Exp4: check bayes and gibbs
11852   No=4;T=5;nA=5;C=2;for g in 0 1 2; do
11853   if [ "$g" = "0" ]; then gibbs=gibbs:0; _ytm=ytm:1:0.9:1000: fi
11854   if [ "$g" = "1" ]; then gibbs=gibbs:1; _ytm=ytm:1:0.9:1000: fi
11855   if [ "$g" = "2" ]; then gibbs=gibbs:1; _ytm=ytm:-1; fi
11856   if [ "$C" = "1" ]; then iCs=1; iCd=0; fi
11857   if [ "$C" = "2" ]; then iCs=0; iCd=0; fi
11858   if [ "$C" = "3" ]; then iCs=0; iCd=1; fi
11859   if [ "$C" = "4" ]; then iCs=0; iCd=2; fi
11860   if [ "$C" = "5" ]; then iCs=0; iCd=3; fi
```

```
11861  if [ "$C" = "6" ]; then iCs=0; iCd=4; fi
11862  if [ "$C" = "7" ]; then iCs=0; iCd=5; fi
11863  test=test:5:1000:${iCs}:${iCd}:${T}:pART=pART:0.5:0.5:10:LAR=LAR:0.5:0.5:0:${nA}:ver=ver:-2: #best for v
er:-2
11864  #test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.7:0.15:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ve
r:-2
11865  #test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.6:0.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver
:-2
11866  #if [ "$T" = "10" ]; then LAR=LAR:0.5:0:2; fi
11867  echo "#$test:$pART:$LAR"
11868  cmd="speakerdigit_v $fs $fd $nSDL $pmin ${_ytm} $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART_$LA
R $test";
11869  #cmd="speakerdigit_v $fs $fd $nSDL $pmin ytm:-1 $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LA
R $test";
11870  echo $cmd; $cmd;
11871  echo "#Done for $test:$pART:$LAR"
11872  cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_C${C}_v-2_gibbs${g}_No${No}.dat"
11873  echo $cmd; $cmd;
11874  done
11875  !cp ARS-t-1.obj ~/l3iconip/speech/draft/
11876
11877  plot [-0.5:10.5]"test_s+d1000_C2_v-2_No2.dat" using 1:($13*0.1) t "A" pt 6 lt 1, "" using 1:($14*0.1
) t "R" pt 6 lt 1, "" using 1:($26*0.1) t "AD" w l lt 2, "test_s+d1000_C2_v-2-bayes_No2.dat" using 1:($13*0.1
15*0.1) t "S" pt 8 lt 1, "test_s+d1000_C2_v-2-yth0_No2.dat" using 1:($13*0.1) t "A" pt 10 lt 1, "" using 1:($
14*0.1) t "R" pt 10 lt 1, "" using 1:($15*0.1) t "AD" w l lt 2
11878  set term tgif;set output "ARS-t-1.obj";replot;set term X11
11879  !cp ARS-t-1.obj ~/l3iconip/speech/draft/
11880
11881  cd ~/sotu/2012/l2voicedata/allpole/
11882  gnuplot
11883  set style data lp
11884  plot [-0.5:10.5] "test_s+d1000_C2_v-2_gibbs1_No4.dat" using 1:($13*0.1) t "S" pt 7 lt 1, "" using 1:
($14*0.1) t "A" pt 7 lt 1, "" using 1:($15*0.1) t "R" pt 8 lt 1, "" using 1:($15*0.1) t "S" pt 8 lt 1, "tes
t_s+d1000_C2_v-2_gibbs2_No4.dat" using 1:($13*0.1) t "A" pt 10 lt 1, "" using 1:($14*0.1) t "R" pt 10 lt 1, "
" using 1:($15*0.1) t "S" pt 10 lt 1
11885  set term tgif;set output "ARS-t-0.obj";replot:set term X11
11886  !cp ARS-t-0.obj ~/l3iconip/speech/draft/
11887
11888  cd ~/sotu/2012/l2voicedata/allpole/
11889  gnuplot
11890  set style data lp
11891
11892
11893
11894  ################
11895  ################
11896  2013/05/17 for iconip2013
11897  oob4speakerdigit+
11898
11899  #set environment variable by the script on 2013/02/27
11900  話者＋数字照合：ver-2でしきい値の最適化
11901  #Exp1:
11902  (1)指定話者＋指定数字列のテスト，
11903  (2)指定話者＋1/5非指定数字列のテスト，
11904  (3)非指定話者＋指定数字列のテスト，
11905  (5)非指定話者＋1/5非指定数字列のテスト，
11906  (5)指定数字列＋2/5非指定数字列のテスト，
11907  #
11908  for iCs in 0 1; do for iCd in 0 1; do  #for (1),(2),(3),(4)
11909  #for iCs in 0; do for iCd in 2; do  # for (5)
11910  test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.7:0.15:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver
:-2
11911  #test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.6:0.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver
:-2
11912  echo "#$test:$pART:$LAR"
11913  cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";
11914  echo $cmd; $cmd;
11915  echo "#Done for $test:$pART:$LAR"
11916  cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2.dat"
11917  echo $cmd; $cmd;
11918  done;done
11919  #
11920  cd ../l2voicedata/allpole/
11921  gnuplot
11922  plot "test_s+d1000_0_0_5_v-2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "" pt 6 lt 1, \
11923  "test_s+d1000_1_0_5_v-2.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "" pt 4 lt 1,
0.7, 0.15,1
11924  set term tgif;set output "test_s+d1000-gibbs.obj";replot
11925
```

```
11926  (1)t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA937:FR2:SA61 pAR0.7:0.15 LAR0.
.7:0:1 iCT0:0/5 midiv-2
11927  (2)t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA850:FR0:SA150 pAR0.7:0.15 LAR
0.7:0:1 iCT1:1/5 midiv-2
11928  (3)t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC0=TA0:FR0:SA0 C0=TA0:FR0:SR5 pAR0.7:0.15 LAR0.
7:0:1 iCT0:0/5 midiv-2
11929  (4)t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.998 iC0=TR0:FA0:SR6 C0=TA0:FR0:SA0 pAR0.7:0.15 LAR0.
.7:0:1 iCT1:1/5 midiv-2
11930  (5)t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC0=TR0:FA0:FA14:SR986 C1000=TA937:FR1:SA62 pAR0.7:0.1 LAR0.
.7:0:1 iCT0:2/5 midiv-2
11931
11932  (1)t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA937:FR1:SA62 pAR0.7:0.1 LAR0.
7:0:1 iCT0:0/5 midiv-2
11933  (2)t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA850:FR0:SA150 pAR0.7:0.1 LAR
.7:0:1 iCT0:1/5 midiv-2
11934  (3)t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC0=TA0:FR0:SA0 C0=TA0:FR0:SR22 pAR0.7:0.1 LAR0.
7:0:1 iCT0:0/5 midiv-2
11935  (4)t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.998 iC0=TR0:FA0:SR21 C0=TA0:FR0:SA0 pAR0.7:0.1 LAR0.
7:0:1 iCT1:1/5 midiv-2
11936  (5)t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC0=TR0:FA0:FA14:SR986 C1000=TR0:FA0:SA0 pAR0.7:0.1 LAR0.
7:0:1 iCT0:2/5 midiv-2
11937  ###########tmp/testsd.dat
11938  ##!Error Rate: FP FN ER yth [%] involving void=m7.
11939  6.000 2.000 5.429 -0.893 m0
11940  6.000 5.000 5.714 -0.900 m1
11941  6.000 5.000 5.857 -0.855 m2
11942  5.333 4.000 5.143 -0.900 m3
11943  6.000 3.000 5.571 -0.842 m4
11944  6.000 4.000 5.714 -0.601 m5
11945  6.000 4.000 5.714 -0.617 m6
11946  #<FP>=0.0590476(+-0.0038492)   <FN>=0.0371429(+-0.0145304  TotalUncertainty+-0.0106289(k1.65)  <ERR>=0.05
59184 nS7 nD10
11947  ###########tmp/testd.dat
11948  ##!Error Rate: FP FN ER yth [%] involving void=m10.
11949  6.000 2.000 5.429 -0.815 m0
11950  1.905 2.857 2.000 -0.346 m1
11951  1.905 4.286 2.143 -0.821 m2
11952  1.905 4.286 2.143 -0.563 m3
11953  1.905 5.714 2.286 0.027 m4
11954  1.000 4.286 0.857 -0.900 m5
11955  1.905 5.714 2.286 -0.682 m6
11956  1.905 2.857 2.000 -0.650 m7
11957  1.905 4.286 2.143 -0.569 m8
11958  1.587 1.000 1.429 -0.900 m9
11959  #<FP>=0.0173016(+-0.0046594)   <FN>=-0.0385714+-0.0221245 TotalUncertainty+-0.0159876(k1.65)  <ERR>=0.01
94286 nS7 nD10
11960
11961  #Exp2: gibbs=gibbs:0: =bayes #bayesでは分散が大きく、バラつく
11962  for iCs in 0 1; do for iCd in 0 1; do  #for (1),(2),(3),(4)
11963  #for iCs in 0; do for iCd in 2; do  # for (5)
11964  test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.6:.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver:-2
2
11965  #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.7:.1:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver:
-2
11966  #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.7:0.5:.008:10:iver-2: #best for ve
r:-2
11967  echo "#$test:$pART:$LAR"
11968  cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr $void gibbs:0 $beta $sdP $lT $sdT $ver $pART $LAR
$test"
11969  echo $cmd; $cmd;
11970
11971  echo "#Done for $test:$pART:$LAR"
11972  cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_5_v-2-bayes.dat"
11973  echo $cmd; $cmd;
11974  done;done
11975
11976  cd ../l2voicedata/allpole/
11977  gnuplot
11978  plot "test_s+d1000_0_0_5_v-2-bayes.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "" pt 6 lt 1, \
11979  "test_s+d1000_1_0_5_v-2-bayes.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "" pt 4
lt 1, 0.6, 0.1,1
11980  set term tgif;set output "test_s+d1000-bayes.obj";replot
11981
11982  (1)t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA932:FR9:SA59 pAR0.6:0.1 LAR0.
7:0:1 iCT0:0/5 midiv-2
11983  (2)t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA848:FR2:SA150 pAR0.6:0.1 LAR0.7
.7:0:1 iCT1:1/5 midiv-2
11984  (3)t5 <p>0.013U0.065:0.010-0.806 LC0.002-0.998 iC0=TA0:FR0:SA0 C0=TA0:FR0:SR0 pAR0.6:0.1 LAR0.7
:0:1 iCT0:0/5 midiv-2
11985  (4)t5 <p>0.012U0.024:0.010-0.294 LC0.002-0.858 iC0=TR0:FA0:SR3 C0=TA0:FR0:SA0 pAR0.6:0.1 LAR0.7
:0:1 iCT1:1/5 midiv-2
11986  (5)t5 <p>0.960U0.234:0.010-0.990 LC0.003-0.998 iC999=TR0:FA16:SR983 C1=TA0:FR1:SA0 pAR0.6:0.1 LAR0.7
```

```
:0:1 iCT0:2/5 midlv-2
11987
11988  (1)t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA925:FR9:SA66 pAR0.7:0.1 LAR0.
7:0:1 iCT0:0/5 midlv-2
11989  (2)t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA842:FR2:SA156 pAR0.7:0.1 LAR0.
.7:0:1 iCT0:1/5 midlv-2
11990  (3)t5 <p>0.013U0.065:0.010-0.806 LC0.002-0.998 iC1000=TR998:FA1:SR1 C0=TA0:FR0:SA0 pAR0.7:0.1 LAR0.7
:0:1 iCT0:0/5 midlv-2
11991  (4)t5 <p>0.012U0.024:0.010-0.294 LC0.002-0.858 iC1000=TR997:FA0:SR3 C0=TA0:FR0:SA0 pAR0.7:0.1 LAR0.7
:0:1 iCT1:1/5 midlv-2
11992  (5)t5 <p>0.960U0.234:0.010-0.990 LC0.003-0.998 iC999=TR0:FA15:SR984 C1=TA0:FR1:SR0 pAR0.7:0.1 LAR0.7
:0:1 iCT0:2/5 midlv-2
11993
11994
11995  (1)t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA932:FR9:SA59 pAR0.6:0.1 LAR0.
7:0:1 iCT0:0/5 midlv-2
11996  (2)t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA848:FR2:SA150 pAR0.6:0.1 LAR0.
.7:0:1 iCT0:1/5 midlv-2
11997  (3)t5 <p>0.013U0.065:0.010-0.806 LC0.002-0.998 iC1000=TR998:FA2:SR0 C0=TA0:FR0:SA0 pAR0.6:0.1 LAR0.7
:0:1 iCT0:0/5 midlv-2
11998  (4)t5 <p>0.012U0.024:0.010-0.294 LC0.002-0.858 iC1000=TR997:FA0:SR3 C0=TA0:FR0:SA0 pAR0.6:0.1 LAR0.7
:0:1 iCT1:1/5 midlv-2
11999  (5)t5 <p>0.960U0.234:0.010-0.990 LC0.003-0.998 iC999=TR0:FA16:SR983 C1=TA0:FR1:SA0 pAR0.6:0.1 LAR0.7
:0:1 iCT0:2/5 midlv-2
12000
12001
12002 #Exp3:ytm:-1 no-tuning of yth
12003 #yth=0では、pAを小さくしても、TAが大きくできない。なぜか？FNが大きい？pGの分散も大きいはず？
12004 #for iCs in 0 1: do #for iCd in 2: do  # for (5)
12005 #for iCs in 0: do for iCd in 2: do # for (5)
12006 test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.6:.15:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver:
-2
12007 #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ve
r:-2
12008 echo "#$test:$pART:$LAR"
12009 cmd="speakerdigit_v $fs $fd $nSDL $pmin ytm:-1 $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR
$test";
12010 echo $cmd; $cmd;
12011 echo "#Done for $test:$pART:$LAR"
12012 cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2-yth-no-tune.dat"
12013 echo $cmd; $cmd;
12014 done:done
12015 cd ../l2voicedata/allpole/
12016 gnuplot
12017 plot  "test_s+d1000_0_0_5_v-2-yth-no-tune.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "" pt 6 1
t 1, \
12018  "test_s+d1000_1_0_5_v-2-yth-notune.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "
pt 6 1, 0.7, 0.15
12019 set term tgif;set output "test_s+d1000-yth-no-tune.obj";replot
12020  (1)t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA917:FR0:SA83 pAR0.3:0.15 LAR0
.7:0:1 iCT0:0/5 midlv-2
12021  (2)t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA917:FR0:SA83 pAR0.4:0.15 LAR0
.7:0:1 iCT1:1/5 midlv-2
12022  (3)t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA914:FR0:SA86 pAR0.6:0.15 LAR0
.7:0:1 iCT0:1/5 midlv-2
12023  (1)t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA765:FR1:SA234 pAR0.6:0.15 LAR
0.7:0:1 iCT0:0/5 midlv-2
12024  (2)t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA995:FA0:SR5 pAR0.6:0.15 LAR0.
7:0:1 iCT0:1/5 midlv-2
12025  (3)t5 <p>0.018U0.075:0.010-0.888 LC0.001-0.999 iC1000=TR998:FA0:SR2 C0=TA0:FR0:SA0 pAR0.6:0.15 LAR0.
7:0:1 iCT1:1/5 midlv-2
12026  (4)t5 <p>0.053U0.053:0.010-0.473 LC0.002-0.999 iC1000=TR995:FA0:SR5 C0=TA0:FR0:SA0 pAR0.6:0.15 LAR0.
7:0:1 iCT0:1/5 midlv-2
12027  (5)t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.999 iC0=TR0:FA7:SR993 C0=TA0:FR0:SA0 pAR0.6:0.15 LAR0.
7:0:1 iCT0:2/5 midlv-2
12028   t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.999 iC1000=TR0:FA7:SR993 C0=TA0:FR0:SA0 pAR0.7:0.15 LAR0.
7:0:1 iCT0:2/5 midlv-2
12029
12030  (1)t5 <p>0.962U0.158:0.185-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA913:FR0:SA87 pAR0.7:0.15 LAR0
.7:0:1 iCT0:0/5 midlv-2
12031  (2)t5 <p>0.964U0.144:0.089-0.990 LC0.002-0.999 iC0=TR0:FA0:SR0 C1000=TA762:FR1:SA237 pAR0.7:0.15 LAR
0.7:0:1 iCT0:1/5 midlv-2
12032  (3)t5 <p>0.018U0.075:0.010-0.888 LC0.001-0.999 iC1000=TR998:FA0:SR2 C0=TA0:FR0:SA0 pAR0.7:0.15 LAR0.
7:0:1 iCT1:1/5 midlv-2
12033  (4)t5 <p>0.018U0.053:0.010-0.473 LC0.001-0.999 iC1000=TR998:FA0:SR2 C0=TA0:FR0:SA0 pAR0.7:0.15 LAR0.
7:0:1 iCT0:1/5 midlv-2
12034  (5)t5 <p>0.961U0.150:0.089-0.990 LC0.002-0.999 iC1000=TR0:FA7:SR993 C0=TA0:FR0:SA0 pAR0.7:0.15 LAR0.
7:0:1 iCT0:2/5 midlv-2
12035
12036 ##!Error Rate: FP FN ER yth [%] involving void=m7.
12037 2.000 3.000 2.143 0.000 m0
12038 8.000 2.000 m1
12039 2.833 7.000 3.429 0.000 m2
```

```
12040 2.333 9.000 3.286 0.000 m3
12041 2.667 5.000 3.000 0.000 m4
12042 2.333 7.000 3.000 0.000 m5
12043 3.333 8.000 4.000 0.000 m6
12044 #<FP>=0.0235714(+-0.0112236) <FN>=0.0671429+-0.0314482 TotalUncertainty+-0.0236139(k1.65) <ERR>=0.029
7959 nS7 nD10
12045 ##!Error Rate: FP FN ER yth [%] involving void=m10.
12046 1.000 7.143 1.571 0.000 m0
12047 1.000 5.714 1.143 0.000 m1
12048 1.270 11.429 2.286 0.000 m2
12049 1.111 5.714 1.571 0.000 m3
12050 2.063 5.714 2.429 0.000 m4
12051 1.000 10.000 1.000 0.000 m5
12052 1.000 7.143 1.571 0.000 m6
12053 1.000 10.000 1.429 0.000 m7
12054 1.746 7.143 2.286 0.000 m8
12055 1.000 1.429 0.429 0.000 m9
12056 #<FP>=0.00952381(+-0.00738646) <FN>=0.0714286+-0.0447236 TotalUncertainty+-0.0320528(k1.65) <ERR>=0.
0157143 nS7 nD10
12057
12058
12059
12060
12061
12062 ################
12063
12064
12065
12066
12067 ##old
12068 for iCs in 0 1: do for iCd in 0 1: do  #for (1),(2),(3),(4)
12069 #for iCs in 0: do for iCd in 2: do  # for (5)
12070 test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver
:-2
12071 #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.3:0.001:1:ver=ver:-1:#best for ver
:-1
12072 echo "#$test:$pART:$LAR"
12073 cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";
12074 echo $cmd; $cmd;
12075 echo "#Done for $test:$pART:$LAR"
12076 cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2.dat"
12077 echo $cmd; $cmd;
12078 done:done
12079 ##best pART=pART:0.5:.008:10:LAR=LAR:0.7:0.001:1:ver=ver:-2:
12080 (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA947:FR0:SA53 pAR0.5:0.008 LA
R0.7:0:1 iCT0:0/5 midlv-2
12081 (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA859:FR0:SA141 pAR0.5:0.008 L
AR0.7:0:1 iCT0:1/5 midlv-2
12082 (3) t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC1000=TR33:FA0:SR967 C0=TA0:FR0:SA0 pAR0.5:0.008 LA
R0.7:0:1 iCT0:0/5 midlv-2
12083 (4) t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.858 iC1000=TR128:FA0:SR872 C0=TA0:FR0:SA0 pAR0.5:0.008 L
AR0.7:0:1 iCT1:1/5 midlv-2
12084 (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC1000=TR0:FA16:SR984 C1=TA0:FR0:SA0 pAR0.5:0.008 LA
R0.7:0:1 iCT0:2/5 midlv-2
12085 cd ../l2voicedata/allpole/
12086 gnuplot
12087 plot  "test_s+d1000_0_0_5_v-2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12088  "test_s+d1000_1_0_5_v-2.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.5, 0.00
8
12089 set term tgif;set output "test_s+d1000-gibbs.obj";replot
12090
12091 #Exp2: gibbs-0:
12092 for iCs in 0 1: do for iCd in 0 1: do  #for (1),(2),(3),(4)
12093 #for iCs in 0: do for iCd in 2: do  # for (5)
12094 test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.7:0.000:1:ver=ver:-2: #best for ver
:-2
12095 #test=test:5:1000:${iCs}:${iCd}:5;pART=pART:0.5:.008:10:LAR=LAR:0.3:0.001:1:ver=ver:-1:#best for ver
:-1
12096 echo "#$test:$pART:$LAR"
12097 cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr $void gibbs:0 $beta $sdP $lT $sdT $ver $pART $LAR
$test";
12098 echo $cmd; $cmd;
12099 echo "#Done for $test:$pART:$LAR"
12100 cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2-bayes.dat"
12101 echo $cmd; $cmd;
12102 done:done
12103 t5 <p>0.966U0.209:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA934:FR0:SA66 pAR0.5:0.008 LAR0.7
:0:1 iCT0:0/5 midlv-2
12104 t5 <p>0.963U0.212:0.010-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA850:FR0:SA150 pAR0.5:0.008 LAR0.
7:0:1 iCT0:1/5 midlv-2
12105 t5 <p>0.013U0.065:0.010-0.806 LC0.002-0.998 iC1000=TR33:FA2:SR965 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.7
```

```
:0:1 iCT0:1/5 mid1v-2
12106  t5 <p>0.012U0.024:0.010-0.294 LC0.002-0.858 iC1000=TR128:FA0:SR872 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.
7:0:1 iCT1:1/5 mid1v-2
12107  t5 <p>0.960U0.234:0.010-0.990 LC0.003-0.998 iC1000=TR0:FA16:SR984 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.7
:0:1 iCT0:2/5 mid1v-2
12108
12109   cd ../l2voicedata/allpole/
12110   gnuplot
12111   plot "test_s+d1000_0_0_5_v-2-bayes.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12112   "test_s+d1000_1_0_5_v-2-bayes.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.5
, 0.008
12113   set term tgif;set output "test_s+d1000-bayes.obj";replot
12114
12115   #Exp3:ytm:-1 no-tuning of yth
12116   for iCs in 0 1; do for iCd in 0 1; do  #for (1),(2),(3),(4)
12117   for iCs in 0; do for iCd in 2; do  # for (5)
12118   t5 <p>0.960U0.227:0.010-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.
:-2
12119   #test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART0.5:.008:10:LAR=LAR:0.7:0.000:1!ver=ver:-2: #best for ver
:-2
12120   echo "#$test:$pART!$LAR"
12121   cmd="speakerdigit_v $fs $fd $nSDL $pART!$LAR"
$LAR $test";
12122   echo $cmd; $cmd;
12123   echo "#Done for $test:$pART!$LAR"
12124   cmd="cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2-yth-no-tune.dat"
12125   echo $cmd; $cmd;
12126   done;done
12127   t5 <p>0.960U0.227:0.010-0.990 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.
7:0:1 iCT0:0/5 mid1v-2
12128   t5 <p>0.960U0.215:0.010-0.990 LC0.001-0.998 iC1000=TR102:FA3:SR895 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.
7:0:1 iCT0:1/5 mid1v-2
12129   t5 <p>0.016U0.112:0.010-0.990 LC0.001-0.990 iC1000=TR320:FA3:SR677 C0=TA0:FR0:SA0 pAR0.5:0.008 LAR0.
7:0:1 iCT1:0/5 mid1v-2
12130   t5 <p>0.017U0.120:0.010-0.999 LC0.001-0.999 iC1000=TR3:FA39:SR958 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
7:0:1 iCT1:1/5 mid1v-2
12131
12132   cd ../l2voicedata/allpole/
12133   gnuplot
12134   plot "test_s+d1000_0_0_5_v-2-yth-no-tune.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12135   "test_s+d1000_1_0_5_v-2-yth-notune.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "
, 0.5, 0.008
12136   set term tgif;set output "test_s+d1000-yth-no-tune.obj";replot
12137   ##########################
12138
12139   2013/02/27
12140   ###0. set the following default environment variables
12141   PART=pART:.85:.20:10:#PART=pART:<pA>:<pR>:<T> for <pA>=accept_prob, <pR>=reject_prob, <T>=terminal_time.
12142   LAR=LAR:0.9:0.001:1:  #LAR:<LA>:<LR>:<LAn>  for <LA>=accept_likelihood, <LR>=reject_Likelihood,
12143                         #LAn>-mismatching of digits    (<LAn>
12144                         allow <LAn>-mismatching of digits
12145   #if{pG->C[t]=th->pA) fprintf(fpp, "<Accept!");
12146   #if{pG->C[t]<th->pR) fprintf(fpp, "<Reject!");
12147   #th->T   terminal_time.
12148   #th->LA,  digit accept
12149   #th->LR,  digit reject
12150   #th->LAn
12151   test=test:5:1000:0:4:5:#test:5:<n>:<rics>:<t_iCd>:<tD>: for <n>:number_of_samples,
12152                         #<speakers_rate (0 or 1)
12153                         # <t_iCd>:<tD> for number <t_iCd> of incorrect digits in <tD> digits
12154   #test=test:4:1000:0:0:#test:4:<n>:<rics>:<riCd>, for <n>=num_of_samples, <rics>=inCorrect_speakers_r
ate, <riCd>=inCorrect_digits_rate.
when test_id=0
12155   sdT=sdT:0:0:1:2:3:4:5:6:7:8:9:  #sdT:<speaker>:<digit1>:<digit2>:... for testing  speaker and digits
12156   sdP=sdP:0:0:1:2:3:4:5:6:7:8:9:  #sdP:<speaker>:<digit1>:<digit2>:... for prompted speaker and digits
12157   1T=1T:1:  #1T:<l>  for testing data of <l>-th date
12158   ver=ver:-2;
12159   nSDL=nSDL:7:10:10   #nSDL:<nS>:<nD>:<nL> for number of speakers, digits and dates
12160   fsd=fsd:../l2voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1.y:#file name of y of speakerdigit
12161   fs=fs:../l2voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.y: #file name of y of speaker
12162   fd=fd:../l2voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1.y: #file name of y of digit
12163   nSDL=nSDL:7:10:10   #nSDL:<nS>:<nD>:<nL> for number of speakers, digits and dates
12164   beta=beta:1:  #method of calculating probability
12165   gibbs=gibbs:1:  #1 for Gibbs, 0 for Bayes
12166   beta=beta:1:  #inverse temperature beta
12167   pmin=pmin:0.01:  #threshold of probability p for pmin<p<1-pmin
12168   #ytm=ytm:-1.0:9:1000:PNr="":  #ytm:<a>:<n> for method to get <n> samples for -a < yth < +a
12169   #ytm=ytm:0:PNr=PNr:0.9:  #ytm:0 for method to determine yth using PNr=0.9 (see ICONIP2012)
12170   void=void:0:  #void:1 for use void (see ICONIP2012) not available now
12171   ###########################
12172   4. 話者数字照合：ver=-2でしきい値の最適化
12173   4.1 実験
```

```
12174   for iCs in 0 1; do for iCd in 0 1; do  # for (1)-(4)
12175   #for iCs in 0; do for iCd in 2; do  # for (5)
12176   test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART0.6:.09:10:LAR=LAR:0.3:0.005:1!ver=ver:-2:#best for ver:-
2
12177   cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
t";$cmd
12178   echo "#Done for $test:$pART!$LAR"
12179   cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_1000_${iCs}_${iCd}_5_v-2.dat
12180   done;done
12181   #best
12182   #test=test:5:1000:$5:${iCs}:${iCd}:5!ver=ver:-2:#best for ver:
-2
12183   (1)t5 <p>0.977U0.092:0.236-0.990 LC0.022-0.999 iC0=TR0:FA0:SR0 C1000=TA942:FR0:SA58 pAR0.6:0.09 LAR0
.3:0.005:1 iCT0:0/5 mid3v-2
12184   (2)t5 <p>0.943U0.151:0.147-0.990 LC0.003-0.999 iC0=TR0:FA0:SR0 C1000=TA839:FR0:SA161 pAR0.6:0.09 LAR
0.3:0.005:1 iCT0:1/5 mid3v-2
12185   (3)t5 <p>0.035U0.065:0.010-0.583 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:1 iCT0:1/5 mid3v-2
12186   (4)t5 <p>0.033U0.042:0.010-0.268 LC0.002-0.999 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:1 iCT1:1/5 mid3v-2
12187   (5)t5 <p>0.800U0.276:0.059-0.990 LC0.002-0.999 iC1000=TR3:FA39:SR958 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:1 iCT0:2/5 mid3v-2
12188
12189   #n_A=0 誤答誤り数を 0 にすると受理率が 82.0%まで下がる
12190   #test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART:0.6:.09:10:LAR=LAR:0.3:0.005:0!ver=ver:-2:#best for ver:
-2
12191   (1)t5 <p>0.977U0.092:0.236-0.990 LC0.022-0.999 iC0=TR0:FA0:SR0 C1000=TA993:FR0:SA7 pAR0.6:0.09 LAR0.
3:0.005:0 iCT0:0/5 mid3v-2
12192   (2)t5 <p>0.943U0.151:0.147-0.990 LC0.003-0.999 iC0=TR0:FA0:SR0 C1000=TR32:FA25:SR943 pAR0.6:0.09 LAR
0.3:0.005:0 iCT0:1/5 mid3v-2
12193   (3)t5 <p>0.035U0.065:0.010-0.583 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:0 iCT0:1/5 mid3v-2
12194   (4)t5 <p>0.033U0.042:0.010-0.268 LC0.002-0.999 iC1000=TR963:FA0:SR37 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:0 iCT1:1/5 mid3v-2
12195   (5)t5 <p>0.800U0.276:0.059-0.990 LC0.002-0.999 iC1000=TR967:FA0:SR33 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:0 iCT0:2/5 mid3v-2
12196   #n_A=0 誤答誤り数を 0 にすると
12197   #(1)で受理率が FA82まで下がり
12198   #(2)で FA25と大きくなる
12199
12200   #nA=5：誤答誤り数を用いないで、多段話者数字認識のみ21/5でもアクセプト？TAではなく、FA
12201   test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART:0.6:.09:10:LAR=LAR:0.3:0.005:5!ver=ver:-2:#best for ver:-
2
12202   (1)t5 <p>0.977U0.092:0.236-0.990 LC0.022-0.999 iC0=TR0:FA0:SR0 C1000=TA983:FR0:SA0 pAR0.6:0.09 LAR0.
3:0.005:5 iCT0:0/5 mid3v-2
12203   (2)t5 <p>0.943U0.151:0.147-0.990 LC0.003-0.999 iC0=TR0:FA0:SR0 C1000=TR963:FA0:SR0 pAR0.6:0.09 LAR0
.3:0.005:5 iCT0:1/5 mid3v-2
12204   (3)t5 <p>0.035U0.065:0.010-0.583 LC0.002-0.999 iC1000=TR0:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:5 iCT0:1/5 mid3v-2
12205   (4)t5 <p>0.033U0.042:0.010-0.268 LC0.002-0.999 iC1000=TR967:FA0:SR33 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.3:0.005:5 iCT1:1/5 mid3v-2
12206   (5)t5 <p>0.800U0.276:0.059-0.990 LC0.002-0.999 iC1000=TR72:FA1:SR927 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.3:0.005:5 iCT0:2/5 mid3v-2
12207
12208   2013/02/23
12209   1. しきい値 pART と  LARの最適化を試みた。
12210   (1)指定話者＋指定数字列のテスト、
12211   (2)指定話者＋1/5非指定数字列のテスト、
12212   (3)非指定話者＋指定数字列のテスト、
12213   (4)非指定話者＋1/5指定数字列のテスト、
12214   (5)非指定話者＋2/5非指定数字列のテスト、
12215   に対し、(1)-(4)では FA,FRが0、(5)では FA50(5$)以上となるものの、(1)のTAが大きいもの。
12216   以下の 2-5の結果を得た。まとめると以下のようになるが、もっといいものはないか？
12217   話者＋数字照合：ver=-2 → (1)C1000=TA944:FR0:SA56
12218   話者＋数字照合：ver=-1 → (1)C1000=TA954:FR0:SA46
12219   話者数字照合：ver=-2 → (1)C1000=TA942:FR0:SA58
12220   話者数字照合：ver=-1 → (1)C1000=TA909:FR0:SA91
12221
12222   2. 話者数字照合：ver=-2でしきい値の最適化
12223   4.1 実験
12224   for iCs in 0 1; do for iCd in 0 1; do
12225   #for iCs in 0; do for iCd in 2; do
12226   test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART:0.5:.008:10:LAR=LAR:0.7:0.001:1!ver=ver:-2: #best for ver
:-2
12227   #test=test:5:1000:$5:${iCs}:${iCd}:5!pART=pART:0.5:.008:10:LAR=LAR:0.3:0.001:1!ver=ver:-1:#best for ver
:-1
12228   echo "#$test:$pART!$LAR"
12229   cmd="speakerdigit_v $fs  $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";$cmd
12230   echo "#Done for $test:$pART!$LAR"
12231   cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-2.dat
12232   done;done
```

12233 (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA944:FRO:SA56 pARO.6:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12234 (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA850:FRO:SA150 pARO.6:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-2
12235 (3) t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC1000=TR35:FAO:SR965 CO=TAO:FRO:SAO pARO.6:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12236 (4) t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.858 iC1000=TR137:FAO:SR863 CO=TAO:FRO:SAO pARO.6:0.008 L
AR0.8:0.001:1 iCT1:0/5 midlv-2
12237 (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC1000=TRO:FAO:SAO C1000=TR0:FAO:SAO pARO.6:0.008 LAR
R0.8:0.001:1 iCTO:2/5 midlv-2
12238
12239 (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA945:FRO:SA55 pARO.5:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12240 (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA850:FRO:SA150 pARO.5:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-2
12241 (3) t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC1000=TR35:FAO:SR965 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12242 (4) t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.858 iC1000=TR137:FAO:SR863 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.8:0.001:1 iCT1:0/5 midlv-2
12243 (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC1000=TRO:FAO:SAO C1000=TR0:FAO:SAO pARO.5:0.008 LA
R0.8:0.001:1 iCTO:2/5 midlv-2
12244
12245 (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA946:FRO:SA54 pARO.4:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12246 (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iCO=TRO:FAO:SRO C1000=TA851:FRO:SA149 pARO.4:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-2
12247 (3) t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.998 iC1000=TR35:FAO:SR965 CO=TAO:FRO:SAO pARO.4:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-2
12248 (4) t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.858 iC1000=TR137:FA1:SR862 CO=TAO:FRO:SAO pARO.4:0.008 L
AR0.8:0.001:1 iCT1:0/5 midlv-2 NG FA1
12249 (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC1000=TRO:FA13:SR987 CO=TAO:FRO:SAO pARO.4:0.008 LA
R0.8:0.001:1 iCTO:2/5 midlv-2
12250
12251 ##best pART=pART:0.5:.008:10:LAR=LAR:0.7:0.001:1:ver=ver:-2:
12252 (1) t5 <p>0.960U0.153:0.072-0.990 iCO=TRO:FAO:SRO C1000=TA947:FRO:SA53 pARO.5:0.008 LA
R0.7:0.001:1 iCTO:0/5 midlv-2
12253 (2) t5 <p>0.961U0.142:0.069-0.990 iCO=TRO:FAO:SRO C1000=TA859:FRO:SA141 pARO.5:0.008 L
AR0.7:0.001:1 iCTO:1/5 midlv-2
12254 (3) t5 <p>0.021U0.044:0.010-0.345 iC1000=TR33:FAO:SR967 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.7:0.001:1 iCTO:0/5 midlv-2
12255 (4) t5 <p>0.022U0.049:0.010-0.456 iC1000=TR128:FAO:SR872 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.7:0.001:1 iCT1:0/5 midlv-2 NG FA1
12256 (5) t5 <p>0.956U0.163:0.062-0.990 iC1000=TRO:FA16:SR984 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.7:0.001:1 iCTO:2/5 midlv-2
12257
12258 (1) t5 <p>0.960U0.153:0.072-0.990 iCO=TRO:FAO:SRO C1000=TA951:FRO:SA49 pARO.5:0.008 LA
R0.6:0.001:1 iCTO:0/5 midlv-2
12259 (2) t5 <p>0.961U0.142:0.069-0.990 iCO=TRO:FAO:SRO C1000=TA865:FRO:SA135 pARO.5:0.008 L
AR0.6:0.001:1 iCTO:1/5 midlv-2
12260 (3) t5 <p>0.021U0.044:0.010-0.345 iC1000=TR33:FAO:SR967 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.6:0.001:1 iCTO:0/5 midlv-2
12261 (4) t5 <p>0.920U0.205:0.062-0.990 for LAR0.6 iC1000=TRO:FA9:SR991 CO=TAO:FRO:SAO pARO.5:0.008 LAR
0.6:0.001:1 iCT1:1/5 midlv-2 NG FA9 for LAR0.6
12262 (5) t5 <p>0.956U0.163:0.062-0.990 iC1000=TRO:FA20:SR980 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.6:0.001:1 iCTO:2/5 midlv-2
12263

12286 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA926:FRO:SA74 pARO.6:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-1
12287 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA806:FRO:SA194 pARO.6:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-1
12288 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR47:FAO:SR953 CO=TAO:FRO:SAO pARO.6:0.008 LA
R0.8:0.001:1 iCT1:0/5 midlv-1
12289 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR170:FAO:SR830 CO=TAO:FRO:SAO pARO.6:0.008 L
AR0.8:0.001:1 iCT1:1/5 midlv-1
12290 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA7:SR993 CO=TAO:FRO:SAO pARO.6:0.008 LAR
0.8:0.001:1 iCTO:2/5 midlv-1
12291
12292 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA933:FRO:SA67 pARO.5:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-1
12293 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA817:FRO:SA183 pARO.5:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-1
12294 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR47:FAO:SR953 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-1
12295 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR170:FAO:SR830 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.8:0.001:1 iCT1:1/5 midlv-1
12296 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA7:SR993 CO=TAO:FRO:SAO pARO.5:0.008 LAR
0.8:0.001:1 iCTO:2/5 midlv-1
12297
12298 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA934:FRO:SA66 pARO.4:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-1
12299 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA818:FRO:SA182 pARO.4:0.008 L
AR0.8:0.001:1 iCTO:1/5 midlv-1
12300 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR47:FA1:SR952 CO=TAO:FRO:SAO pARO.4:0.008 LA
R0.8:0.001:1 iCTO:0/5 midlv-1
12301 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR170:FA1:SR829 CO=TAO:FRO:SAO pARO.4:0.008 L
AR0.8:0.001:1 iCT1:1/5 midlv-1 NG FA1 for pAO.4
12302 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA8:SR992 CO=TAO:FRO:SAO pARO.4:0.008 LAR
0.8:0.001:1 iCTO:2/5 midlv-1
12303
12304 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA946:FRO:SA54 pARO.5:0.008 LA
R0.7:0.001:1 iCTO:0/5 midlv-1
12305 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA859:FRO:SA141 pARO.5:0.008 L
AR0.7:0.001:1 iCTO:1/5 midlv-1
12306 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR33:FAO:SR967 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.7:0.001:1 iCTO:0/5 midlv-1
12307 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR128:FAO:SR872 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.7:0.001:1 iCT1:1/5 midlv-1
12308 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA15:SR985 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.7:0.001:1 iCTO:2/5 midlv-1
12309
12310 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA950:FRO:SA50 pARO.5:0.008 LA
R0.6:0.001:1 iCTO:0/5 midlv-1
12311 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA865:FRO:SA135 pARO.5:0.008 L
AR0.6:0.001:1 iCTO:1/5 midlv-1
12312 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR33:FAO:SR967 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.6:0.001:1 iCTO:0/5 midlv-1
12313 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TRO:FA22:SR878 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.6:0.001:1 iCT1:1/5 midlv-1
12314 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA19:SR981 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.6:0.001:1 iCTO:2/5 midlv-1
12315
12316 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA950:FRO:SA50 pARO.5:0.008 LA
R0.5:0.001:1 iCTO:0/5 midlv-1
12317 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA866:FRO:SA134 pARO.5:0.008 L
AR0.5:0.001:1 iCTO:1/5 midlv-1
12318 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR33:FAO:SR967 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.5:0.001:1 iCTO:0/5 midlv-1
12319 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR121:FAO:SR879 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.5:0.001:1 iCT1:1/5 midlv-1
12320 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA22:SR978 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.5:0.001:1 iCTO:2/5 midlv-1
12321
12322 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA954:FRO:SA46 pARO.5:0.008 LA
R0.4:0.001:1 iCTO:0/5 midlv-1
12323 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA876:FRO:SA124 pARO.5:0.008 L
AR0.4:0.001:1 iCTO:1/5 midlv-1
12324 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR30:FAO:SR970 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.4:0.001:1 iCTO:0/5 midlv-1
12325 (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC1000=TR114:FAO:SR886 CO=TAO:FRO:SAO pARO.5:0.008 L
AR0.4:0.001:1 iCT1:1/5 midlv-1
12326 (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TRO:FA23:SR977 CO=TAO:FRO:SAO pARO.5:0.008 LA
R0.4:0.001:1 iCTO:2/5 midlv-1
12327 #best pART=pART:0.5:.008:10:LAR=LAR:0.3:0.001:1:ver=ver:-1:
12328 (1) t5 <p>0.855U0.160:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA954:FRO:SA46 pARO.5:0.008 LA
R0.3:0.001:1 iCTO:0/5 midlv-1
12329 (2) t5 <p>0.853U0.154:0.163-0.915 LC0.038-0.964 iCO=TRO:FAO:SRO C1000=TA876:FRO:SA124 pARO.5:0.008 L
AR0.3:0.001:1 iCTO:1/5 midlv-1
12330 (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC1000=TR30:FAO:SR970 CO=TAO:FRO:SAO pARO.5:0.008 LA

12264 2.2 検討 以下
12265 (a) pAT≧0.5 (pART:.5:.008:10)上で誤受理は 0 (FAO) だが、pAT=0.4の偽話者1/5比指定数字(iCT1:1/5 midlv
-2)   で FA1が でた。pAT≧0.5 とすべき！？
12267
12269 2.3 視覚化
12270 cd ../l2voicedata/allpole/
12271 gnuplot

```
12272  plot "test_s+d1000_0_5_v-2.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12273  "test_s+d1000_1_0_5_v-2.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.2,0.008
```

12274 3. 話者+数字照合：ver=-1で しきい値の最適化
12275 3.1 実験

```
12276  #for iCs in 0 1: do for iCd in 0 1: do
12277  for iCs in 0 1: do for iCd in 2: do
12278  #for iCs in 0: do for iCd in 1: do
12279  #test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.5:.008:10:LAR=LAR:0.7:0.001:1:ver=ver:-2: #best for ve
r:-2
12280  test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.5:.008:10:LAR=LAR:0.3:0.001:1:ver=ver:-1:#best for ver:
-1
12281  echo "#$test:$pART:$LAR"
12282  cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test:";$cmd
12283  echo "#Done for $test:$pART:$LAR"
12284  cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-1.dat
12285  done:done
```

```
12351
12352   3.2 検討 以下
12353   (a) ver:-2と同様に、 pAT≧0.5 (pART:.5:.008:10)上で誤受理は0 (FA0) だが、 pAT=0.4の偽話者 1/5比指定数字
       (iCT1:1/5 midlv-2)
12354   でFA1が でた。 pAT≧0.5 とすべき！?
12355   3.3 視覚化
12356   cd ../l2voicedata/allpole/
12357   gnuplot
12358   "test_s+d1000_0_5_v-1.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12359   "test_s+d1000_1_0_5_v-1.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.2.0.008
12360   4. 話者数字照合 : ver:-2でしきい値の最適化
12361   4.1 実験
12362   #for iCs in 0 1: do for iCd in 0 1; do   # for (1)-(4)
12363   for iCs in 0 1: do for iCd in 2; do      # for (5)
12364   #for iCs in 0: do for iCd in 2; do        # for (5)
12365   test=test=5:1000>${iCs}:${iCd}:5:pART=pART:0.6:.09:10:LAR=LAR:0.3:0.005:1:ver=ver:-2:#best for ver:-
       2
12366   cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $sdP $lT $sdT $ver $pART $LAR $tes
       t";$cmd
12367   echo "#Done for $test'$pART':$LAR"
12368   cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_1000_${iCs}_${iCd}_5_v-2.dat
12369   done/done_stat.dat
12370   #ver:-2のとき
```

```
12430  test=test:5:1000:${iCd}:${iCs}:${iCd}:5:pART=pART:0.6:.09:10:LAR=LAR:0.3:0.005:1:ver=ver:-2:#best for ver:-
2
12431  test=test:5:1000:${iCs}:${iCd}:5:pART=pART:0.6:.09:10:LAR=LAR:0.8:0.005:1:ver=ver:-1:#best for ver:-
1
12432  cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr  $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
t":$cmd
12433  echo "#Done for $test:$pART:$LAR"
12434  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd_1000_${iCs}_${iCd}_5_v-1.dat
12435  done:done
12436  #selected? FA24=2.5%≦5% for 2/5指指定数字列 ver:-1
12437  (1) t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3v-1
12438  (2) t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA769:FR0:SA231 pAR0.6:0.09 LA
R0.8:0.005:1 iCT0:1/5 mid3v-1
12439  (3) t5 <p>0.196U0.152:0.054-0.526 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3v-1
12440  (4) t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT1:1/5 mid3v-1
12441  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA24:SR976 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:2/5 mid3v-1 FA24=2.4%<5% OK
12442
12443  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA83:SR917 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.7:0.005:1 iCT0:2/5 mid3v-1 FA83=8.3%>5% NG
12444  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA136:SR864 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR0
.5:0.005:1 iCT0:2/5 mid3v-1 FA136=13.6%>5% NG
12445  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA332:SR668 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.4:0.005:1 iCT0:2/5 mid3v-1
12446  t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.5:0.09 LAR0.8:
0.005:1 iCT0:0/5 mid3v-1
12447  t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA779:FR0:SA221 pAR0.5:0.09 LARO.8
:0.005:1 iCT0:1/5 mid3v-1
12448  t5 <p>0.196U0.152:0.054-0.526 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR0.8:
0.005:1 iCT0:0/5 mid3v-1
12449  t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR0.8:
0.005:1 iCT1:1/5 mid3v-1
12450  t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA33:SR967 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR0.8:
0.005:1 iCT0:2/5 mid3v-1
12451  t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA33:SR967 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR0.8:
0.005:1 iCT0:2/5 mid3v-1 same as above
12453  t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.4:0.09 LAR0.8:
0.005:1 iCT0:0/5 mid3v-1
12454  t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA779:FR0:SA221 pAR0.4:0.09 LAR0.8
:0.005:1 iCT0:1/5 mid3v-1
12455  t5 <p>0.196U0.152:0.054-0.526 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.4:0.09 LAR0.8:
0.005:1 iCT0:0/5 mid3v-1
12456  t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.4:0.09 LAR0.8:
0.005:1 iCT1:1/5 mid3v-1
12457  t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA33:SR967 C0=TA0:FR0:SA0 pAR0.4:0.09 LAR0.8:
0.005:1 iCT0:2/5 mid3v-1
12458  ####################
12459
12460  2013/02/21
12461  2. 全CANに対する話者数字 (s,d)の尤度 p(v^{SxD}|s,d)として、(s,d)に対する尤度について
は、
12462  すなわち、p(v^{SxD}|s,d)=p(v^{Cs,d}|s,d)とする尤度をした方が良いことを、2013/02/19の5.で書いている（つもり）だが、
12463  事後確率を使ってる音数字の受理と乗却をしたところを良いべきなので ver=-1としていたので修正した。次に
12464  間違いが多くいくつかあった。まず、ver=ver:-1とすべきものと。
12465  そのとき使ったプログラム speakerdigit_v.cの1184行目のif(vsesion==-1)の処理のところで
12466  事後分布 (posterior)を使うようにしていたが、それではうまく行かなかった。そこでver:-2と同様に、
12467  事後分布 (likelihood)の行を使うことともにしたが、しまい値をpART:6:.09:10なとを変えるとうまく行った。
12468  その結果を以下に示す。
12470  2. 話者数字認識 : (s,d)に対する尤度しか使わない尤度を用いる数字列判定
12471  2.1 pART:6:.09:10:LAR:0.8:0.005:1として話者数字を
12472  for iCs in 0; do for iCd in 0 1; do # for (1)-(4)
12473  #for iCs in 0; do for iCd in 2; do # for (5)
12474  test=test:5:1000:${iCd}:${iCs}:5:pART=pART:0.6:.09:10:LAR=LAR:0.8:0.005:1:ver=ver:-1;
12475  cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr  $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
t":$cmd
12476  echo "#Done for $test:$pART:$LAR"
12477  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd_1000_${iCs}_${iCd}_5_v-1.dat
12478  done:done
12479  (1) t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.7:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3
12480  (2) t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA513:FR0:SA487 pAR0.7:0.09 LA
R0.8:0.005:1 iCT0:1/5 mid3
12482  (4) t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.7:0.09 LAR
0.8:0.005:1 iCT1:1/5 mid3
12483  (5) t7 <p>0.598U0.170:0.265-0.809 LC0.081-0.920 iC0=TR0:FA13:SR987 C0=TA0:FR0:SA0 pAR0.7:0.09 LAR
0.8:0.005:1 iCT0:2/5 mid3
12484
```

```
12485  (1) t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3
12486  (2) t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA769:FR0:SA231 pAR0.6:0.09 LA
R0.8:0.005:1 iCT0:1/5 mid3
12487  (3) t5 <p>0.196U0.152:0.054-0.526 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3
12488  (4) t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT1:1/5 mid3
12489  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA24:SR976 C0=TA0:FR0:SA0 pAR0.6:0.09 LAR
0.8:0.005:1 iCT0:2/5 mid3
12490
12491  (1) t5 <p>0.786U0.088:0.401-0.822 LC0.441-0.920 iC0=TR0:FA0:SR0 C1000=TA909:FR0:SA91 pAR0.5:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3
12492  (2) t5 <p>0.679U0.127:0.283-0.813 LC0.080-0.920 iC0=TR0:FA0:SR0 C1000=TA779:FR0:SA221 pAR0.5:0.09 LA
R0.8:0.005:1 iCT0:1/5 mid3
12493  (3) t5 <p>0.196U0.152:0.054-0.526 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR
0.8:0.005:1 iCT0:0/5 mid3
12494  (4) t5 <p>0.195U0.149:0.056-0.493 LC0.067-0.920 iC0=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR
0.8:0.005:1 iCT1:1/5 mid3
12495  (5) t5 <p>0.539U0.160:0.264-0.776 LC0.067-0.920 iC0=TR0:FA33:SR967 C0=TA0:FR0:SA0 pAR0.5:0.09 LAR
0.8:0.005:1 iCT0:2/5 mid3
12496
12497
12498  2.2 検討 以下
12499  (a) 誤受理は、(1)-(4)すべて無かった (FR0)、 (2)で1/5非数字である が指定話者なので1/5以下の非数字は受理
する。
12500  (b) 誤乗却は、(1)-(4)すべて無かった (FR0)。
12501  (c) 指定話者が1/5非指定数字を発した (1)の場合、 受理が90.9%(TA907)、 受理保留が9.1%(SA91)
12502  ○
12503  (d) pAR0.6:0.09で、指定数字なので容認。
12504  (e) 非指定話者 (3)と(4)では正乗却が100%(TR-1000)。
12505  (f) セキュリティの面から は (ii)誤乗却は多っても良いが誤受理は無くしたい。 一方、 実用面から は (iii)正解入力
の場合 (1)の受理率は高くしたい。
12506  pAR0.6:0.09で、指定話者+2/5非指定数字列の (5)を考える。 誤受理が2.4%(FA24)あった。「指定話者は数字
12507  間違いが少なければ受理する」という観点点からは
12508  容認できる。 (i)と(ii)の両面で容認できると考える。
12509  (g) ver=-1では pART:<pA><pR><T>の <pR> の設定、 LAR:<LA><LAn>:<LR><LAn>の <LA>の設定は難しく、 試行錯誤で行っ
た。
12510  3. 話者+数字認識 : (s,d)に対する尤度しか使わない尤度を用いる数字
12511  3.1 LAR:0.6:0.008:1, pART=pART:.8:.008:10として話者+数字
12512  for iCs in 0 1; do for iCd in 0 1; do
12513  #for iCs in 0; do for iCd in 2; do
12514  test=test:5:1000:${iCd}:${iCs}:5:pART=pART:.6:.008:10:LAR=LAR:0.8:0.001:1:ver=ver:-1;
12515  echo "#$test:$pART:$LAR"
12516  cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr  $void $ytm $sdP $sdT $LAR $
test":$cmd
12517  echo "#Done for $test:$pART:$LAR"
12518  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-1.dat
12519  done:done
12520  (1) t5 <p>0.855U0.163:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA900:FR0:SA100 pAR0.7:0.008 L
AR0.8:0.001:1 iCT0:0/5 mid1
12521  (2) t5 <p>0.853U0.154:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA778:FR0:SA222 pAR0.7:0.008 L
AR0.8:0.001:1 iCT0:1/5 mid1
12522  (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC0=TR47:FA0:SR953 C0=TA0:FR0:SA0 pAR0.7:0.008 LA
R0.8:0.001:1 iCT0:0/5 mid1
12523  (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC0=TR170:FA0:SR830 C0=TA0:FR0:SA0 pAR0.7:0.008 L
AR0.8:0.001:1 iCT1:1/5 mid1
12524  (5) t5 <p>0.847U0.169:0.164-0.915 iC0=TR0:FA7:SR993 C0=TA0:FR0:SA0 pAR0.7:0.008 LAR
0.8:0.001:1 iCT0:2/5 mid1
12525
12526  (1) t5 <p>0.855U0.163:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA926:FR0:SA74 pAR0.6:0.008 LA
R0.8:0.001:1 iCT0:0/5 mid1
12527  (2) t5 <p>0.853U0.154:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA806:FR0:SA194 pAR0.6:0.008 L
AR0.8:0.001:1 iCT0:1/5 mid1
12528  (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC0=TR47:FA0:SR953 C0=TA0:FR0:SA0 pAR0.6:0.008 LA
R0.8:0.001:1 iCT0:0/5 mid1
12529  (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC0=TR170:FA0:SR830 C0=TA0:FR0:SA0 pAR0.6:0.008 L
AR0.8:0.001:1 iCT1:1/5 mid1
12530  (5) t5 <p>0.847U0.169:0.164-0.915 iC0=TR0:FA7:SR993 C0=TA0:FR0:SA0 pAR0.6:0.008 LAR
0.8:0.001:1 iCT0:2/5 mid1
12531
12532  (1) t5 <p>0.855U0.163:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA933:FR0:SA67 pAR0.5:0.008 LA
R0.8:0.001:1 iCT0:0/5 mid1
12533  (2) t5 <p>0.853U0.154:0.163-0.915 iC0=TR0:FA0:SR0 C1000=TA817:FR0:SA183 pAR0.5:0.008 L
AR0.8:0.001:1 iCT0:1/5 mid1
12534  (3) t5 <p>0.105U0.072:0.038-0.447 LC0.024-0.963 iC0=TR47:FA0:SR953 C0=TA0:FR0:SA0 pAR0.5:0.008 LA
R0.8:0.001:1 iCT0:0/5 mid1
12535  (4) t5 <p>0.108U0.076:0.035-0.449 LC0.024-0.837 iC0=TR170:FA0:SR830 C0=TA0:FR0:SA0 pAR0.5:0.008 L
```

```
12536  (5) t5 <p>0.847U0.169:0.164-0.915 LC0.038-0.964 iC1000=TR0:FA7:SR993 CO=TA0:FR0:SA0 pAR0.5:0.008 pAR
0.8:0.001:1 iCT0:2/5 mid1
12537
12538  5.2.4 検討
12539  (a)誤受理は、(1)-(4)すべてで無かった(FA0)。なお(2)で1/5非指定数字である が指定話者なの で1/5以下の非数字は
受理する。
12540  (b)誤棄却は、(1)-(4)すべてで無かった(FR0)。
12541  (c)pAR0.6:0.008で、指定話者が全て指定数字を発した(1)の場合、受理が92.6%(TA926)、受理保留が7.4%(SA74)
12542  (d)pAR0.6:0.008で、指定話者が1/5非指定数字を発した(2)の場合、受理が80.6%(TA806)、受理保留が19.4%(SA1
94)。1/5非指定数字なので容認。
12543  (e)pAR0.6:0.008で、非指定話者(3)と(4)では正棄却が4.7%(TR47)と17.0%(TR170)とかなり低い。（低すぎ?）
12544  (f)セキュリティの面からは(ii)誤棄却は無くしたい。一方、実用面からは(ii)正解入力
の場合pAR0.6:0.008で受理率は高くしたい。
12545  pAR0.6:0.008で、指定話者+2/5非指定数字列の(5)の場合、誤受理が0.7%(FA7)あった が、「指定話者は数字
間違いが少なければ受理する」という観点からは
12546  容認できる。(i)と(ii)の両面で容認できると考える。
12547  (g)ver=-1では pART:<pA>:<T>の <pR><T>の設定、LAR:<LA>:<LAn>の <LAn>の <LA>の設定は難しく、試行錯誤で行っ
た。
12548
12549
12550  ##############
12551  2013/02/19
12552  1. 2013/02/18の「3.3 換言」と「4.3 換言」の
12553  (f)セキュリティの面からは(ii)誤受理は無くしたい。受
理率は高く、保留は少なくしたい。
12554  という点について、次の実を導入した。
12555  (案) 指定話者について は誤受理について は正しくても受理しない。
っていても)
12556  受理する。ただし偽話者について は数字がすべて正しくても受理しない。
12557  これによってセキュリティを保ちながら実用性が格段に向上する。
12558
12559  2. デフォールトオプション (以下 で3,4,...の実行の前に次の設定をすること)
12560  pART=pART:.85:.20:10:8:pART for <pA>=accept_prob, <pR>=reject_prob, <T>=terminal_time.
12561  LAR=LAR:0.9:0.001:1:  #LAR:<LA>:<LR>:<LAn> for <LA>=accept_likelihood, <LR>=reject_Likelihood,
12562                          allow <LAn>=mismatching of digits (<LAn>
12563  test=test:5:1000:0:4:5:#test:5:<n>:<riCs>:<t_iCd>:<tD>: for <n>=number_of_samples,
12564  #<riCs>=incorrect_speakers_rate (0 or 1)
12565  #_icd:<t_iCd> for number of incorrect digits in <tD> digits
12566  #<t_icd>=incorrect_speakers <t_iCd> for <n>=num_of_samples, <riCs>=inCorrect_speakers_r
ate,<riCd>=inCorrect_digits_rate.
12567  #test=test:0;         #test:0 for testing given sdP and sdT.
12568  #test=test:0;
12569  sdP=sdP:0:10:0:1:2:3:4:5:6:7:8:9; #sdP:<speaker>:<digit1>:... for prompted speaker and digits
when test_id=0
12569  sdT=sdT:0:0:1:2:3:4:5:6:7:8:9; #sdT:<speaker>:<digit1>:<digit2>:... for testing  speaker  and digits
12570  1:1T:1;                #1T:<l>  for testing data of <l>-th date
12571  ver=ver-2;             #method of calculating probability
12572  fsd=isd:../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1.y:fd="" #file name of y of speakerdigit
12573  fs=fs:../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.y: #file name of y of speaker
12574  fd=fd:../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1.y: #file name of y of digit
12575  nSDL=nSDL:7:10:10       #nSDL:<nS>:<nD>:<nL> for number of speakers, digits and dates
12576  gibbs=gibbs:1:          #1 for Gibbs, 0 for Bayes
12577  beta=beta:1:           #inverse temperature beta
12578  pmin=pmin:0.1:         #threshold of probability p for pmin<p<1-pmin
12579  ytm=ytm:1:0.9:1000:PNr=""; #ytm:1:<a>:<n> for method to get <n> samples for -a < yth < +a
12580  #ytm=vtm:0:PNr=PNr:0.9;  #ytm=0 for method to determine yth using PNr:0.9 (see ICONIP2012)
12581  void=void:0;           #void:1 for use void (see ICONIP2012) not available now
12582
12583  3. 話者数字列照合(塚崎):
12584  3.1 実行
12585  (1)指定話者+指定数字列のテスト
12586  (2)指定話者+1/5非指定数字列のテスト
12587  (3)非指定話者+指定数字列のテスト
12588  (4)非指定話者+1/5非指定数字列のテスト
12589  (5)指定話者+2/5非指定数字列のテスト
12590  ### 以下をコピペして実行する
12591  for iCs in 0.1: do for iCd in 0.1: do  #for (1)-(4)
12592  for iCs in 0: do for iCd in 2: do  #for (5)
12593  test=test:5:1000:$:{iCs}:${iCd}:5:pART=pART:.85:.09:10:LAR=LAR:0.91:0.001:1:
12594  cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
t";$cmd
12595  echo "#Done for $test:$pART:$LAR"
12596  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd1000_${iCs}_${iCd}_5.dat
12597  done:done
12598  ### 以上をコピペして実行する
12599
12600  3.2 結果
12601  (1) t5 <p>0.977U0.092:0.236-0.990 LC0.022-0.999 iC0=TR0:FA0:SR0 C1000=TA902:FR0:SA98 pAR0.85:0.09 LA
R0.91:0.001:1 iCT0:0/5 mid3
12602  (2) t5 <p>0.943U0.151:0.147-0.990 LC0.003-0.999 iC0=TR0:FA0:SR0 C1000=TA765:FR0:SA235 pAR0.85:0.09 L
AR0.91:0.001:1 iCT0:1/5 mid3
12603  (3) t5 <p>0.035U0.065:0.010-0.583 LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pAR0.85:0.09 LA
```

```
R0.91:0.001:1 iCT1:0/5 mid3
12604  (4) t5 <p>0.033U0.042:0.010-0.268 LC0.002-0.999 iC1000=TR1000:FA0:SR0 CO=TA0:FR0:SA0 pAR0.85:0.09 LA
R0.91:0.001:1 iCT1:1/5 mid3
12605  (5) t5 <p>0.800U0.276:0.059-0.990 LC0.002-0.999 iC1000=TR0:FA6:SR994 CO=TA0:FR0:SA0 pAR0.85:0.09
0.91:0.001:1 iCT0:2/5 mid3
12606
12607  3.3 検討
12608  (a) 誤受理は、(1)-(4)すべてで無かった(FR0)。
受理する。
12609  (b) 誤棄却は、(1)-(4)すべてで無かった(FR0)。
12610  (c) 指定話者が全て指定数字を発した(1)の場合、受理が90.2%(TA902)、受理保留が9.8%(SA98)。
12611  (d) 指定話者が1/5非指定数字を発した(2)の場合、受理が76.5%(TA765)、受理保留が23.5%(SA235)。1/5非指定数
字なので容認。
12612  (e) 非指定話者(3)と(4)では正棄却が100%(TR=1000)。
12613  (f) セキュリティの面からは(i)誤棄却は無くしたい。一方、実用面からは(ii)正解入力
の場合(1)の受理率は高くしたい。
12614  指定話者+2/5非指定数字列の(5)の場合、誤受理が0.6%(FA6)あった が、「指定話者は数字間違い が少なけれ
ば受理する」という観点から は
12615  容認できる。(i)と(ii)の両面で容認できると考える。
12616  (g)先度による数字列判定は未解析だが、解析必須。
12617
12618  4. 話者+数字(植木):
12619  4.1 実行
12620  (1)指定話者+指定数字列のテスト
12621  (2)指定話者+1/5非指定数字列のテスト
12622  (3)非指定話者+指定数字列のテスト
12623  (4)非指定話者+1/5非指定数字列のテスト
12624  (5)指定話者+2/5非指定数字列のテスト
12625  ### 以下をコピペして実行する
12626  for iCs in 0.1: do for iCd in 0.1: do  #for (1)-(4)
12627  for iCs in 0: do for iCd in 2: do  # for (5)
12628  test=test:5:1000:$:{iCs}:${iCd}:5:pART=pART:.8:.05:10:LAR=LAR:0.91:0.001:1:
12629  echo "#$test:$pART:$LAR"
12630  cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";$cmd
12631  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_${iCs}_5.dat
12632  done:done
12633  ### 以上をコピペして実行する
12634  4.2 結果
12635  (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA864:FR0:SA136 pAR0.8:0.05 LA
R0.91:0.001:1 iCT0:0/5 midl
12636  (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA665:FR0:SA335 pAR0.8:0.05 LA
R0.91:0.001:1 iCT0:1/5 midl
12637  (3) t5 <p>0.02U0.044:0.010-0.345 LC0.002-0.998 iC1000=TR971:FA0:SR29 CO=TA0:FR0:SA0 pAR0.8:0.05 LAR
0.91:0.001:1 iCT0:0/5 mid1
12638  (4) t5 <p>0.022U0.049:0.010-0.456 LC0.003-0.858 iC1000=TR980:FA0:SR20 CO=TA0:FR0:SA0 pAR0.8:0.05 LAR
0.91:0.001:1 iCT1:1/5 mid1
12639  (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.998 iC1000=TR0:FA2:SR998 CO=TA0:FR0:SA0 pAR0.8:0.05 LAR0
.91:0.001:1 iCT0:2/5 mid1
12640
12641  4.3 検討
12642  (a) 誤受理は、(1)-(4)すべてで無かった(FA0)。なお(2)で1/5非指定数字である が指定話者なの で1/5以下の非数
字は受理する。
12643  (b) 誤棄却は、(1)-(4)すべてで無かった(FR0)。
12644  (c) 指定話者が全て指定数字を発した(1)の場合、受理が86.4%(TA864)、受理保留が13.6%(SA136)。
12645  (d) 指定話者が1/5非指定数字を発した(2)の場合、受理が66.5%(SA335)、1/5非指定数
字なので容認。
12646  (e) 非指定話者(3)と(4)では正棄却が97.1%(TR971)と98.0%(TR980)である。
12647  (f) セキュリティの面からは(i)誤棄却は無くしたい。一方、実用面からは(ii)正解入力
の場合(1)の受理率は高くしたい。
12648  指定話者+2/5非指定数字列の(5)の場合、誤受理が0.2%(FA2)あった が、「指定話者は数字間違い が少なけれ
ば受理する」という観点から は
12649  容認できる。(i)と(ii)の両面で容認できると考える。
12650  (g)先度による数字列判定は未解析だが、解析必須。
12651
12652
12653  ###
12654  5. 先度による数字列判定について
12655  5.1 ver:-2で先度を使った結果(上)は、ver:-1で事後分布を使った結果と は ほぼ同じになった?
12656  (if(version==1)(のところ参照'version1は先度の計算を指定CAN20のみの結果を使うもの)
12657  ver:-1で事後分布が使えなくなり、オプション「LAR:<LA>:<LR>:<LAn>」の <LA>は2クラス分類器CAN20の TPの確率よ
り少しな値。
12658  <LR>は FNより少し小さめに設定すればよいと考えられる。
12659
12660  5.2.1 pART:.85:.09:10:LAR:0.8:0.005:1:ver=-1:
12661  for iCs in 0.1: do for iCd in 0.1: do
12662  for iCs in 0: do for iCd in 2: do
12663  test=test:5:1000:${iCs}:${iCd}:5:pART=pART:.85:.09:10:LAR=LAR:0.8:0.005:1:ver=-1;
12664  cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
t";$cmd
12665  echo "#Done for $test:$pART:$LAR"
12666  cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd_1000_${iCs}_5_v-1.dat
```

```
12667 done/done
12668 (1) t5 <p>0.977U0.092 p0.236-0.990 LC:0.022-0.999 iC0=TR0:FA0:SR0 C1000=TA907:FR0:SA93 pAR0.85:0.09
12669 LAR0.8:0.005:1 iCT0:0/5 mid3
12670 (2) t5 <p>0.943U0.151 p0.147-0.990 LC:0.003-0.999 iC0=TR0:FA0:SR0 C1000=TA768:FR0:SA232 pAR0.85:0.09
12671 LAR0.8:0.005:1 iCT0:1/5 mid3
12672 (3) t5 <p>0.035U0.065 p0.010-0.583 LC:0.002-0.999 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.85:0.09
12673 LAR0.8:0.005:1 iCT1:0/5 mid3
12674 (4) t5 <p>0.033U0.042 p0.010-0.268 LC:0.002-0.999 iC1000=TR1000:FA0:SR0 C0=TA0:FR0:SA0 pAR0.85:0.09 L
12675 AR0.8:0.005:1 iCT0:2/5 mid3
12674 5.2.2 検討
12675 (a)誤受理は、(1)-(4)すべてで無かった(FA0)。(2)で1/5非数字である が指定話者なので1/5以下の非数字は受理
        する。
12676 (b)誤棄却は、(1)-(4)すべてで無かった(FR0)。
12677 (c)指定話者が全て指定数字を発した(TA907)、受理が90.7%(TA907)、受理保留が9.3%(SA93)。3.2より良い。
12678 (d)指定話者が1/5非指定数字を発した(2)の場合、受理が76.8%(TA768)、受理保留が23.2%(SA232)。1/5非指定数
        字なので受理。
12679 (e)非指定話者(3)と(4)では正常棄却が100%(TR=1000)。
12680 (f)セキュリティの面からは(i)誤棄却はあっても良いが誤受理は無くしたい。一方、実用面からは(ii)正解入力
        の場合(1)の受理率は高くしたい。
12681 指定話者を+2/5非指定数字列の(5)の場合(FA6)あったが、「指定話者は数字間違いが少なけれ
        ば受理する」という考えに従って容認できると考える。
12682 容認できる。(i)と(ii)の両面で容認できると考える。
12683 (g)ver-1では尤度で公く事後確率でも良い。
12684 pART:<pA>:<T>の<pR>:<T>の <pR>:<rR>:<LR>:<LAn>の<LA>の設定は難しく、試行錯誤で行った。
12685
12686 5.2.3 LAR:0.8:0.005:1, pART=pART:.8:.008:10として指定話者+数字
12687 for iCs in 0 1: do for iCd in 0 1: do
12688 #for iCs in 0: do for iCd in 2: do
12689 test=test:5:1000:${iCs}:${iCd}:5:pART=pART:.8:.008:10:LAR=LAR:0.8:0.001:1:ver=-1:
12690 echo "#Done for $test:$pART:$LAR"
12691 cmd="speakerdigit_v $fs $fd $nSDL $pmin $ytm $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
        test";$cmd
12692 echo "#Done for $test:$pART:$LAR"
12693 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s+d1000_${iCs}_${iCd}_5_v-1.dat
12694 done/done
12695 (1) t5 <p>0.960U0.153:0.072-0.990 LC0.003-0.998 iC0=TR0:FA0:SR0 C1000=TA928:FR0:SA72 pAR0.8:0.008 LA
12696 R0.8:0.001:1 iCT0:0/5 mid1
12697 (2) t5 <p>0.961U0.142:0.069-0.990 LC0.003-0.990 iC0=TR0:FA0:SR0 C1000=TA833:FR0:SA167 pAR0.8:0.008 LA
12698 R0.8:0.001:1 iCT0:1/5 mid1
12699 (3) t5 <p>0.021U0.044:0.010-0.345 LC0.002-0.990 iC1000=TR35:FA0:SR965 C0=TA0:FR0:SA0 pAR0.8:0.008 LA
12700 R0.8:0.001:1 iCT1:1/5 mid1
12701 (4) t5 <p>0.022U0.049:0.010-0.456 LC0.002-0.858 iC1000=TR137:FA0:SR863 C0=TA0:FR0:SA0 pAR0.8:0.008 L
12702 AR0.8:0.001:1 iCT1:1/5 mid1
12703 (5) t5 <p>0.956U0.163:0.062-0.990 LC0.003-0.990 iC1000=TR0:FA12:SR988 C0=TA0:FR0:SA0 pAR0.8:0.008 LA
12704 R0.8:0.001:1 iCT0:2/5 mid1
12700
12701 5.2.4 検討
12702 (a)誤受理は、(1)-(4)すべてで無かった(FA0)。なお(2)で1/5非数字である が指定話者なので1/5以下の非数字は
        受理する。
12703 (b)誤棄却は、(1)-(4)すべてで無かった(FR0)。
12704 (c)指定話者が全て指定数字を発した(1)の場合、受理が92.8%(TA928)、受理保留が7.2%(SA72)。
12705 (d)指定話者が1/5非指定数字を発した(2)の場合、受理が83.3%(TA833)、受理保留が16.7%(SA167)。1/5非指定数
        字なので受理。
12706 (e)非指定話者(3)と(4)では正常棄却が3.5%(TR35)と13.7%(TR137)とかなり低い。(低すぎ?)
12707 (f)セキュリティの面からは(i)誤棄却はあっても良いが誤受理は無くしたい。一方、実用面からは(ii)正解入力
12708 の場合(1)の受理率は高くしたい。指定話者を+2/5非指定数字列の(5)の場合(FA12)あったが、「指定話者は数字間違いが少なけ
12709 れば受理する」という考えに従って容認できると考える。
12710 容認できる。(i)と(ii)の両面で容認できると考える。
12711 (g)ver-1では尤度で公く事後確率でも良い。pART:<pA>:<T>の<pR>:<T>の <pR>:<rR>:<LR>:<LAn>の<LA>の設定、LAR:<LA>:<LR>:<LAn>の<LA>の設定は難しく、試行錯誤で行った。
12712
12713 5.2.4 視覚化
12714 cd ../12voicedata/allpole/
12715 gnuplot
12716 plot "test_s+d1000_0_0_5_v-1.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12717 "test_s+d1000_1_0_5_v-1.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.2,0.008
12718
12719
12720 ####
12721
12722 2013/02/18
12723 通し1 (2013/02/13) の1.の考えに従って、次の要領のプログラムを作成し、実験した：
12724 「数字指定形にて数字を正しく発声したと判断できるときのみ受理判定をする」手法について、
12725 指定数字列に対し、受理(Accept)、棄却(Reject)、保留(Suspend)の判定を以下の手順で行う。
12726 通し1 (2013/02/13) と少し違う。
12727 誤受理率(FR)と誤棄却(FR)を0とすることを目的とする。ただし保留は度合いLcで決める。 (可能?)
12728 (各段(各ステップ)、各指定数字)で指定数字と その他数字の尤度Lcを求める。
12729 (尤度L=lp(v|s,d)でなく事後確率p(s,d|v)=(1/Z) p(v|s,d) p(s,d)を使うとうまく
```

```
12730 いかなかった. why?)
12731 指定数字の尤度Lcがしきい値th->LA以上の場合、そのステップに受理マーク、
12732 指定数字の尤度Lcがしきい値th->LR以下なら は、そのステップに乗却マーク。
12733 (2)すべてのステップに受理マークがあれば指定数字列は受理(A)、
12734 いずれかのステップに乗却マークがあれば数字列全体を乗却(R)、
12735 それ以外は保留(s)。
12736
12737 2. プログラム: speakerdigit_v.c
12738 2.1 デフォールトオプション (以下下の3,4,....の実行の前に次の設定をすること)
12739 pART=pART:.85:.20:10:#pART:<pA>:<pR>:<T> for <pA>=accept_prob, <pR>=reject_prob,
12740 LAR=LAR:0.9:0.001:0:                for <LA>=accept_Likelihood, <LR>=reject_Likelihood,
12741 #                                   allow <LAn>=mismatching of digits
12742 test=test:5:1000:0:4:5:#test:5:<n>:<riCs>:<t_iCd>:<tD> digits
12743 #<riCs>:incorrect_speakers_rate (0 or 1)
12744 #<riCd>:incorrect_digits_rate.
12745 #test=test:4:1000:0:0:#test:4:<n>:<riCs>:<riCd>, <riCs>=inCorrect_speakers_r
        ate, <riCs>=incorrect_digits_rate.
12746 #test=test:0:                       #test:0 for testing given sdP and sdT.
12747 sdP=sdP:0:0:1:2:3:4:5:6:7:8:9: #sdP:<speaker>:<digit1>:<digit2>:... for prompted speaker and digits
        when test_id=0
12748 sdT=sdT:0:0:1:2:3:4:5:6:7:8:9: #sdT:<speaker>:<digit1>:<digit2>:... for testing speaker and digits
12749 lT=lT:<l>                          for testing data of <l>-th date
12750 ver=ver:-2:                        #method of calculating probability
12751 fsd=fsd:../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1:y:fd="" #file name of y of speakerdigit
12752 fs=fs:../12voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1:y: #file name of y of speaker
12753 fd=fd:../12voicedata/allpole/oob4d:-1N40mbas2:300:1.6:1:y: #file name of y of digit
12754 nSDL=nSDL:7:1:0:10                 #nSDL:<nS>:<sdP>:<sdT>:<n> for number of speakers, digits and dates
12755 gibbs=gibbs:1:                     #1 for Gibbs, 0 for Bayes
12756 beta=beta:1;                       #inverse temperature beta
12757 pmin=pmin:0.01;                    #threshold of probability p for pmin<p<1-pmin
12758 ytm=ytm:1:0.9:1000:PNr="";        #ytm:<a>:<n> for method to get <n> samples for -a < yth < +a
12759 #ytm=ytm:0:PNr=PNr:0.9;            #ytm:0 for method to determine yth using PNr:0.9. (see ICONIP2012)
12760 void=void:0;                      #void:1 for use void (see ICONIP2012) not available now
12761
12762 3. 話者数字列照合 (縮喩) :
12763 3.1 実行
12764 ### 以下をコピペして実行する
12765 for iCs in 0 1: do for iCd in 0 1: do
12766 test=test:5:1000:${iCs}:${iCd}:5:pART=pART:.85:.09:10:LAR=LAR:0.91:0.001:0:
12767 cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $tes
        t";$cmd
12768 echo "#Done for $test:$pART:$LAR"
12769 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd_test1000_${iCs}_${iCd}_5.dat
12770 done/done
12771 ### 以上をコピペして実行する
12772 #cmd="speakerdigit_v $fsd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $te
        st";$cmd
12773
12774 3.2 結果
12775 #(1)指定話者+指定数字列のテスト結果 #Done for test:5:1000:0:0:5:pART:.85:.09:10:LAR:0.91:0.001
12776 t5 <p>0.977 U0.092 pm0.236 pm0.990 LCm0.022 LCm0.999 R0=TR0:FA0:SR0 A1000=ITA742:FR0:SA258 pAR0.85:0.
09 iC0:0/5 mid3
12777 #(2)指定話者+1/5非指定数字列のテスト結果 それ以外の誤受理は無かった(FA0)。
12778 t5 <p>0.943 U0.151 pm0.147 pm0.990 LCm0.003 LCm0.999 R1000=TR0:FA9:SR991 A0=TA0:FR0:SA0 pAR0.85:0.09
        iC0:1/5 mid3
12779 #(3)非指定話者+指定数字列のテスト結果 #Done for test:5:1000:1:0:5:pART:.85:.09:10:LAR:0.91:0.001:
12780 t5 <p>0.035 U0.065 pm0.010 pm0.583 LCm0.002 LCm0.999 R1000=TR1000:FA0:SR0 A0=TA0:FR0:SA0 pAR0.85:0.0
9 iC1:0/5 mid3
12781 #(4)非指定話者+1/5指定数字列のテスト結果 #Done for test:5:1000:1:1:5:pART:.85:.09:10:LAR:0.91:0.00
1;
12782 t5 <p>0.033 U0.042 pm0.010 pm0.268 LCm0.002 LCm0.999 R1000=TR1000:FA0:SR0 A0=TA0:FR0:SA0 pAR0.85:0.0
9 iC1:1/5 mid3
12783
12784 3.3 検討
12785 (a)誤受理は、上の(2)で0.9%(=9/1000; FA9)あったが、それ以外の誤受理は無かった(FA0)。
12786 (b)誤棄却は、上の(1)-(4)すべてで無かった(FR0)。
12787 (c)指定話者が指定数字を発した(1)の場合、受理が74.2%(TA742)、受理保留が(SA:受理すべきが保留と判断)が
        25.8%(SA258)。(?まあまあ?)
12788 (d)指定話者が1/5非指定数字列を発した(2)の場合、棄却保留が99.1%(SR991)で まあまあだが、誤受理が0.9%。
12789 (e)非指定話者(3)と(4)では正解乗却が100%(TR=1000)。
12790 (f)セキュリティの面からは(i)誤棄却はあっても良く無く、(ii)の点でも良いが誤受理は無くしたい。一方、実用面から は(ii)正解入力
12791 の受理率は無くしたい。(i)の点でも良く無く、(ii)の点では良い。
12792 (g)尤度Lcによる数字判別度の尤度Lcを決める。
12793 この話者数字の受理手法は、(i)の点で良く無く、(ii)でも良いが誤受理は無くしたい。一方、実用面から入力
12794 この話者数字判別度をその他数字の尤度Lcを決める。
12795 (g)尤度Lcによる数字判別度の判定を以下の手順で行う。
12796
12797 3.4 視覚化
12798 cd ../12voicedata/allpole/
12799 gnuplot
```

```
12800 plot "test_sd_test1000_0_0_5.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12801       "test_sd_test1000_1_1_5.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", 0.85,0.09
12802
12803 4. 話者・数字（植木）：
12804 4.1 実行
12805 ### 以下をコピペして実行する
12806 for iCs in 0 1; do for iCd in 0 1; do
12807 test=test:5:1000:$(iCs):$(iCd):5;pART=pART:.8:.09:10:LAR=LAR:0.91:0.001:0;
12808 echo "#test:$pART:$LAR"
12809 cmd="speakerdigit_v $ifs $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";$cmd
12810 echo "#Done for $test:$pART:$LAR"
12811 cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_s+d_test1000_$(iCs)_$(iCd)_5.dat
12812 done;done
12813 ### 以上をコピペして実行する。
12814 test=test:5:1000:0:2:5;pART=pART:.8:.09:10:LAR=LAR:0.91:0.001;
12815 cmd="speakerdigit_v $ifs $fd $nSDL $pmin $ytm $PNr $void $gibbs $beta $sdP $lT $sdT $ver $pART $LAR $
test";$cmd
12816
12817 4.2 結果
12818 #(1)#指定話者＋指定数字列のテスト 結果 #Done for test:5:1000:0:0:5:pART:.8:.09:10:LAR:0.91:0.001
12819 iCs:0/5 midl  t5 <p>0.960 U0.153 pm0.072 pM0.072 LCm0.990 LCM0.990 R0=TR0:FA0:SR0 A1000=TA630:FR0:SA370 pAR0.8:0.0
9 iC0:0/5 midl
7 iCs:0/5 midl  change pR=0.07
12820 iC0:0/5 midl  t5 <p>0.960 U0.153 pm0.072 pM0.072 LCm0.990 LCM0.990 R0=TR0:FA0:SR0 A1000=TA630:FR0:SA370 pAR0.8:0.0
01
12821 #(2)#指定話者＋1/5非指定数字列のテスト結果 #Done for test:5:1000:0:1:5:pART:.8:.09:10:LAR:0.91:10:0.001
12822 iC01:1/5 midl  t5 <p>0.961 U0.142 pm0.069 pM0.069 LCm0.990 LCM0.990 R1000=TR10:FA0:SR990 A0=TA0:FR0:SA0 pAR0.8:0.09
12823 iC01:1/5 midl
12824
12825 #(3)#非指定話者＋指定数字列のテスト結果 #Done for test:5:1000:1:0:5:pART:.8:.09:10:LAR:0.91:0.001
12826 iC1:0/5 midl  t5 <p>0.021 U0.044 pm0.010 pM0.010 LCm0.345 LCM0.998 R1000=TR991:FA0:SR9 A0=TA0:FR0:SA0 pAR0.8:0.09
12827 iC1:0/5 midl
12828
12829 #(4)#非指定話者＋1/5指定数字列のテスト結果 #Done for test:5:1000:1:1:5:pART:.8:.09:10:LAR:0.91:0.001
12830 t5 <p>0.022 U0.049 pm0.010 pM0.010 LCm0.456 LCM0.858 R1000=TR1000:FA0:SR0 A0=TA0:FR0:SA0 pAR0.8:0.09
12831 iC1:1/5 midl
12832
12833 4.3 検討
12834 (a)誤受理は、上の(1)-(4)すべてで無かった(FA0)。
12835 (b)誤棄却は、(1)以外では無かった(1)での0.1%（=1/1000: FR1)あった。これはpAR0.8:0.09を
12836 下のgnuplotの95%域から設定したもので約たが、これでpAR0.8:0.07とするとより上のFR0とできたき。
12837 (c)指定話者が指定数字を発話した(1)の場合、受理保留が99.0%(SR99.0)となり誤棄却は36.9%、受理保留が0.1%となった（あ
まり良くない？）。
12838 (d)指定話者が1/5非指定数字を発話した(2)の場合、棄却保留が99.6%(SR99.0)となり誤話者数字とほぼ同じ。ただ
し、正解棄却は1（TR10)となり話者数字。
12839 (e)非指定話者(3)と(4)の場合、正解棄却が、(3)でTR99.1%、(4)でTR100%となった。
12840 (f)セキュリティの評価率としては(i)誤棄却は無くしたい。一方、実用面からは(ii)正解入力
の場合(1)の受理率は高くしたく。 (i)の点で良いが、(ii)の点で良くない。
12841       この話者＋数字の手法は、(i)の点でも良いが、(ii)の点でも良くない、解析必須。
12842 (g)応度による数字判定は未解析だが、数字判定については良い値以下
12843
12844 4.4 視覚化
12845 gnuplot
12846 cd ../l2voicedata/allpole/;
12847 plot "test_s+d_test1000_0_0_5.dat" using 1:2 w l, "" using 1:2:3 w errorbars t "", \
12848      "test_s+d_test1000_1_1_5.dat" using ($1+0.1):2 w l, "" using ($1+0.1):2:3 w errorbars t "", \
12849 0.8,0.09
12850
12851 #############################################
12852 2013/02/13
12853 1. 「数字指定形」では数字を正しく発声したと判定できると、指定数字数の内50以上の個数だけ異なる受理判定をする手法について。
12854   2013/02/08（-2013/02/11）では「全文字数との区別（＝全文字数ではできない」との考えを改良した数字列
12855   100を正しく発声したい場合との区別はできない、との考えに基づいて実験をした場合でなくと、これは数字列
12856   全体でGEBIを行うことも良いが、しどしどもそうであり、以下のやり方の方が良くなると考えられる。そこで、
12857 以下の方法を考える。
12858 数字数の判定に対して、受理(Accept)、棄却(Reject)、保留(Suspend)の判定を以下の手順で行う。
12859 受理数字列(FR)を(FR)を目的にすることを目標とする。ただし数字はあってもよい。（可能？）
12860   各段（各ステップ、各指定数字）で全数字数の一段GEBI推定の事後確率を求める。
12861   すべてのステップで指定数字列が受理されれば指定数字列は受理(A)、
12862   いずれかのステップで指定数字が棄却されれば数字列全体を棄却(R)、
12863 プログラム
12864 2. これから
12865
```

```
12866 ax":t,mpGC,UC,mpGC-UCminus,mpGC+UCplus,rA,rR,pmin,pGCmax);
12867 test";$cmd
12868 echo "#Done for $test:$pART:$LAR"
12869 done;done
12870 test=test:5:1000:0:2:5;pART=pART:.8:.09:10:LAR=LAR:0.91:0.001:0;
12871 test";$cmd
12872
12873 2013/02/11
12874 (20130211)  1. 以下の点を変更して 2013/02/08の内容を修正実験した。
12875 (20130211)  1.1 N40の方が良いみたいなのでこっちで実験
12876 (20130211)  1.2 speakerdigit_v.c の結果 (testsd_stat.dat)に、下の情報を書き出すようにした
12877 113dif  if(i1==1) fprintf(fppli),"%d %g %g %g %g %g %t <p> UC- <p>+UC+ rA rR pmin pm
12878 t: 照合ステップ数
12879 <p>:GEBIによる推定確率p_iの平均、(0<i<test->n)(test->nはオプション test:4:<test:4>:test:4>:test-n はオプション ->1.65倍での正規分布の累積)
12880 UC:不確かさ(Uncertainty): 誤差の標準偏差p_iについての標準偏差の2倍
12881 UC+:平均<p>より大きな推定確率p_iについての誤差の標準偏差の2倍
12882 UC-:平均<p>より小さな推定確率p_iについての誤差の標準偏差の2倍
12883 rA:Accep率数(p_i>pAとなった数)の全数(test->n=1000?)に対する割合  (pAはオプション pART:<pA>:<pR>で設定)
12884 rA:Reject数(p_i<pRとなった数)の全数(test->n=1000?)に対する割合  (pRはオプション pART:<pA>:<pR>で設定)
12885 pmin:p_iの最小値
12886 pmin:p_iの最大値
12887 (20130211) 1.3 以下の実験では、指定話者が指定数字列を入力したとき は受理判定または保留とし（棄却することは
ない）、
12888 ランダムな数字列は棄却または保留とし判定をしない（受理しない）、誤った判定にし、入力して判定すれば判定するとき5個をと2回入力）
12889 結果として、数字を10個（また数字を5個をと2回入力）
12890 解釈：ランダム数字列の場合である。
12891
12892       →「本人が100%指定通りに発声しているとき発声している受理率が高くなり、棄却できるときのみ受理判定をする」ことは無理？
12893       →数字列の中で半分以上同じことなど発声では多段で発声通りに発声できると判定できるときのみ受理判定をすることは可能できる。
12894       →「本人が4個の数字中3個以上、指定通りに発声すればことは可能？
12895 可能？
12896       →「本人が5個の数字中4個以上、指定通りに発声しているとき発声しているとき のみ受理判定をする」ことは
12897 とは可能？
12898 していること
12899                             と矛盾する？しない？
12900 (20130211)  2. 評価実験を行う前に、まず、話者CAN2、数字CAN2、話者数字CAN2の分類性能を上げる。
12901 (20130211)  2.1 話者CAN2
12902 time oob4speakerdigit+ sp:fhs:fms:mkk:mkc:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
12903 ntxi:l0 k:36 mbas:2:300:1.6:1 dir:-. ../l2voicedata/allpole/oob4s:-1N40mbas2:300:1.6:1.y' and '../l2voicedata/allpole/oob4s:-
1N40mbas2:300:1.6:1.ystat'.
12904 #real24m5.038suser20m23.496ssys1m8.308s
12905 0.90000 0.980000 0.010000 0.08000 7.14286e-05  700 0 #TP,TN,FP,FN,ERR,n,sm0
12906 0.92000 0.99000 0.01000 0.08000 1.28571e-04  700 1 #TP,TN,FP,FN,ERR,n,sm1
12907 0.93000 0.97167 0.02833 0.07000 1.40476e-04  700 2 #TP,TN,FP,FN,ERR,n,sm2
12908 0.91000 0.97667 0.02333 0.09000 1.61905e-04  700 3 #TP,TN,FP,FN,ERR,n,sm3
12909 0.95000 0.97333 0.02667 0.05000 1.09524e-04  700 4 #TP,TN,FP,FN,ERR,n,sm4
12910 0.93000 0.97667 0.02333 0.07000 1.33333e-04  700 5 #TP,TN,FP,FN,ERR,n,sm5
12911 0.92000 0.96667 0.03333 0.08000 1.61905e-04  700 6 #TP,TN,FP,FN,ERR,n,sm6
12912
12913 (20130211)  2.2 数字CAN2
12914 time oob4speakerdigit+ sp:fhs:fms:mkk:mkc:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
12915 ntxi:l0 k:36 mbas:2:300:1.6:1 dir:-. ../l2voicedata/allpole/oob4i-1N40mbas2:300:1.6:1.y' and '../l2voicedata/allpole/oob4i-
1N40mbas2:300:1.6:1.ystat'.
12916 #real3m17.100suser29m7.989ssys1m37.926s
12917 0.92857 0.99048 0.00952 0.07143 1.15646e-04  700 0 #TP,TN,FP,FN,ERR,n,txm0
12918 0.94286 0.99365 0.00635 0.05714 9.07029e-05  700 1 #TP,TN,FP,FN,ERR,n,txm1
12919 0.88571 0.98730 0.01270 0.11429 1.81406e-04  700 2 #TP,TN,FP,FN,ERR,n,txm2
12920 0.94286 0.98889 0.01111 0.05714 9.75057e-05  700 3 #TP,TN,FP,FN,ERR,n,txm3
12921 0.94286 0.97937 0.02063 0.05714 1.11111e-04  700 4 #TP,TN,FP,FN,ERR,n,txm4
12922 0.90000 1.00000 0.00000 0.10000 1.42857e-04  700 5 #TP,TN,FP,FN,ERR,n,txm5
12923 0.92857 0.99048 0.00952 0.07143 1.15646e-04  700 6 #TP,TN,FP,FN,ERR,n,txm6
12924 0.90000 0.99524 0.00476 0.10000 1.49660e-04  700 7 #TP,TN,FP,FN,ERR,n,txm7
12925 0.98254 0.98254 0.01746 0.01746 2.49433e-05  700 8 #TP,TN,FP,FN,ERR,n,txm8
12926 0.98571 0.99683 0.00317 0.01429 2.49433e-05  700 9 #TP,TN,FP,FN,ERR,n,txm9
12927
12928 (20130211)  2.3 話者数字CAN2
12929 time oob4speakerdigit+ sp:fhs:fms:mkk:mkc:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
12930 ntxi:l0 k:36 mbas:2:300:1.6:1 dir:-. ../l2voicedata/allpole/oob4sd-1N40mbas2:300:1.6:1.y' and '../l2voicedata/allpole/oob4sd
-1N40mbas2:300:1.6:1.ystat'.
12931 #real244m38.641suser205m7.077ssys11m39.988s
12932 0.80000 0.99565 0.00435 0.20000 2.91925e-04  700 0 #TP,TN,FP,FN,ERR,n,sm0
12933 0.90000 0.99710 0.00290 0.10000 1.46998e-04  700 1 #TP,TN,FP,FN,ERR,n,sm1
12934 1.00000 1.00000 0.00000 0.00000 0.00000e+00  700 2 #TP,TN,FP,FN,ERR,n,sm2
12935 1.00000 1.00000 0.00000 0.00000 0.00000e+00  700 3 #TP,TN,FP,FN,ERR,n,sm3
12936 0.99855 0.00145 0.00000 2.07039e-06  700 4 #TP,TN,FP,FN,ERR,n,sm4
12937 1.00000 1.00000 0.00000 0.00000 0.00000e+00  700 5 #TP,TN,FP,FN,ERR,n,sm5
12938 0.99420 0.00580 0.00000 8.28157e-06  700 6 #TP,TN,FP,FN,ERR,n,sm6
12939 1.00000 1.00000 0.00000 0.00000 0.00000e+00  700 7 #TP,TN,FP,FN,ERR,n,sm7
12940 0.90000 0.99565 0.00435 0.10000 1.49068e-04  700 8 #TP,TN,FP,FN,ERR,n,sm8
12941 1.00000 0.99710 0.00290 0.00000 4.14079e-06  700 9 #TP,TN,FP,FN,ERR,n,sm9
12942 1.00000 1.00000 0.00000 0.00000 0.00000e+00  700 10 #TP,TN,FP,FN,ERR,n,sm1  txm0
```

```
0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 1 1 #TP,TN,FP,FN,ERR,n,sm1 txm1
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 1 2 #TP,TN,FP,FN,ERR,n,sm1 txm2
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 1 3 #TP,TN,FP,FN,ERR,n,sm1 txm3
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 1 4 #TP,TN,FP,FN,ERR,n,sm1 txm4
0.80000 1.00000 0.00000 0.20000 2.85714e-04 700 1 5 #TP,TN,FP,FN,ERR,n,sm1 txm5
0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 1 6 #TP,TN,FP,FN,ERR,n,sm1 txm6
1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 1 7 #TP,TN,FP,FN,ERR,n,sm1 txm7
0.60000 1.00000 0.00000 0.40000 5.71429e-04 700 1 8 #TP,TN,FP,FN,ERR,n,sm1 txm8
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 1 9 #TP,TN,FP,FN,ERR,n,sm1 txm9
0.80000 0.99565 0.00435 0.20000 2.91925e-04 700 2 0 #TP,TN,FP,FN,ERR,n,sm2 txm0
0.90000 0.98841 0.01159 0.10000 1.59420e-04 700 2 1 #TP,TN,FP,FN,ERR,n,sm2 txm1
0.70000 0.98986 0.01014 0.30000 4.43064e-04 700 2 2 #TP,TN,FP,FN,ERR,n,sm2 txm2
1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 2 3 #TP,TN,FP,FN,ERR,n,sm2 txm3
1.00000 0.99130 0.00870 0.00000 1.24224e-05 700 2 4 #TP,TN,FP,FN,ERR,n,sm2 txm4
1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 2 5 #TP,TN,FP,FN,ERR,n,sm2 txm5
1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 2 6 #TP,TN,FP,FN,ERR,n,sm2 txm6
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 2 7 #TP,TN,FP,FN,ERR,n,sm2 txm7
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 2 8 #TP,TN,FP,FN,ERR,n,sm2 txm8
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 2 9 #TP,TN,FP,FN,ERR,n,sm2 txm9
1.00000 0.99420 0.00580 0.00000 8.28157e-06 700 3 0 #TP,TN,FP,FN,ERR,n,sm3 txm0
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 3 1 #TP,TN,FP,FN,ERR,n,sm3 txm1
0.90000 0.99420 0.00580 0.10000 1.51139e-04 700 3 2 #TP,TN,FP,FN,ERR,n,sm3 txm2
0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 3 3 #TP,TN,FP,FN,ERR,n,sm3 txm3
0.90000 0.99565 0.00435 0.10000 1.49068e-04 700 3 4 #TP,TN,FP,FN,ERR,n,sm3 txm4
0.80000 1.00000 0.00000 0.20000 2.85714e-04 700 3 5 #TP,TN,FP,FN,ERR,n,sm3 txm5
0.80000 1.00000 0.00000 0.20000 2.85714e-04 700 3 6 #TP,TN,FP,FN,ERR,n,sm3 txm6
0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 3 7 #TP,TN,FP,FN,ERR,n,sm3 txm7
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 3 8 #TP,TN,FP,FN,ERR,n,sm3 txm8
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 3 9 #TP,TN,FP,FN,ERR,n,sm3 txm9
1.00000 0.99275 0.00725 0.00000 1.03520e-05 700 4 0 #TP,TN,FP,FN,ERR,n,sm4 txm0
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 4 1 #TP,TN,FP,FN,ERR,n,sm4 txm1
0.80000 0.99565 0.00435 0.20000 2.91925e-04 700 4 2 #TP,TN,FP,FN,ERR,n,sm4 txm2
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 4 3 #TP,TN,FP,FN,ERR,n,sm4 txm3
1.00000 0.98841 0.01159 0.00000 1.65631e-05 700 4 4 #TP,TN,FP,FN,ERR,n,sm4 txm4
0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 4 5 #TP,TN,FP,FN,ERR,n,sm4 txm5
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 4 6 #TP,TN,FP,FN,ERR,n,sm4 txm6
0.80000 0.99710 0.00290 0.20000 2.89855e-04 700 4 7 #TP,TN,FP,FN,ERR,n,sm4 txm7
0.90000 0.98986 0.01014 0.10000 1.57350e-04 700 4 8 #TP,TN,FP,FN,ERR,n,sm4 txm8
1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 4 9 #TP,TN,FP,FN,ERR,n,sm4 txm9
0.90000 0.99275 0.00725 0.10000 1.53209e-04 700 5 0 #TP,TN,FP,FN,ERR,n,sm5 txm0
0.90000 0.98986 0.01014 0.10000 1.57350e-04 700 5 1 #TP,TN,FP,FN,ERR,n,sm5 txm1
0.90000 0.98986 0.01014 0.10000 1.57350e-04 700 5 2 #TP,TN,FP,FN,ERR,n,sm5 txm2
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 5 3 #TP,TN,FP,FN,ERR,n,sm5 txm3
0.80000 1.00000 0.00000 0.20000 2.85714e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 5 5 #TP,TN,FP,FN,ERR,n,sm5 txm5
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 5 6 #TP,TN,FP,FN,ERR,n,sm5 txm6
1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 5 7 #TP,TN,FP,FN,ERR,n,sm5 txm7
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 5 8 #TP,TN,FP,FN,ERR,n,sm5 txm8
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 5 9 #TP,TN,FP,FN,ERR,n,sm5 txm9
0.90000 0.99565 0.00435 0.10000 1.49068e-04 700 6 0 #TP,TN,FP,FN,ERR,n,sm6 txm0
0.90000 0.99565 0.00435 0.10000 1.49068e-04 700 6 1 #TP,TN,FP,FN,ERR,n,sm6 txm1
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6 2 #TP,TN,FP,FN,ERR,n,sm6 txm2
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 6 3 #TP,TN,FP,FN,ERR,n,sm6 txm3
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 6 4 #TP,TN,FP,FN,ERR,n,sm6 txm4
0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 6 5 #TP,TN,FP,FN,ERR,n,sm6 txm5
0.70000 0.99710 0.00290 0.30000 4.32712e-04 700 6 6 #TP,TN,FP,FN,ERR,n,sm6 txm6
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6 7 #TP,TN,FP,FN,ERR,n,sm6 txm7
1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 6 8 #TP,TN,FP,FN,ERR,n,sm6 txm8
0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6 9 #TP,TN,FP,FN,ERR,n,sm6 txm9

(20130211) 2.4 数字CAN2(N:20の確認）
oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole d:-1 N:20
#real27m54.693suser23m4.139ssys1m31.494s
#result in ’../12voicedata/allpole/oob4d:-1N20mbas2:300:1.6:1.y’ and ’../12voicedata/allpole/oob4d:-
1N20mbas2:300:1.6:1.ystat’.
0.92857 0.98095 0.01905 0.07143 1.29252e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0
0.97143 0.98571 0.01429 0.02857 6.12245e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1
0.94286 0.99524 0.00476 0.05714 8.84354e-05 700 2 #TP,TN,FP,FN,ERR,n,txm2
0.97143 0.97937 0.02063 0.02857 7.02948e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3
0.95714 0.97302 0.02698 0.04286 9.97732e-05 700 4 #TP,TN,FP,FN,ERR,n,txm4
0.91429 0.99841 0.00159 0.08571 1.24717e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5
0.85714 0.97302 0.02698 0.14286 2.42630e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
0.88571 0.98254 0.01746 0.11429 1.88209e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
0.90000 0.98730 0.01270 0.10000 1.60998e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
0.97143 0.99365 0.00635 0.02857 4.98866e-05 700 9 #TP,TN,FP,FN,ERR,n,txm9

(20130211) 2.5 数字CAN2(N:30の確認）
oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole d:-1 N:30
#real30m58.751suser25m53.165ssys1m34.238s
#result in ’../12voicedata/allpole/oob4d:-1N30mbas2:300:1.6:1.y’ and ’../12voicedata/allpole/oob4d:-
```

```
1N30mbas2:300:1.6:1.ystat’.
0.95714 0.98571 0.01429 0.04286 8.16327e-05 700 0 #TP,TN,FP,FN,ERR,n,txm0
0.97143 0.98254 0.01746 0.02857 6.57596e-05 700 1 #TP,TN,FP,FN,ERR,n,txm1
0.91429 0.99524 0.00476 0.08571 1.29252e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2
0.95714 0.98413 0.01587 0.04286 8.39002e-05 700 3 #TP,TN,FP,FN,ERR,n,txm3
0.94286 0.97302 0.02698 0.05714 1.20181e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
0.91429 0.99683 0.00317 0.08571 1.26984e-04 700 5 #TP,TN,FP,FN,ERR,n,txm5
0.85714 0.97619 0.02381 0.14286 2.38095e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6
0.91429 0.99524 0.00476 0.08571 1.29252e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7
0.90000 0.98730 0.01270 0.10000 1.60998e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8
1.00000 0.99365 0.00635 0.00000 9.07029e-06 700 9 #TP,TN,FP,FN,ERR,n,txm9

(20130211) 3.4-1 話者数字列照合:指定話者＋指定数字列をテスト
pART=pART:.85:.42:4 #下の 3.5-1 でriC0_0の95%の下限と、riC0_0.9の95%の上限として求めた
#pART=pART:.89:.38:5 #この図でt=5におけるriC0_0のエラーバ—の下限(95%)と、riC0_0.9のエラーバーの上限
(95%)として求めた
# t=10でriC0_0でrR=0(間違ってRejectしない）, riC0_0.9でrA=0（間違ってAcceptしない）になる？
speakerdigit_v fsd:../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 $pART
 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-
2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
cp tmp/testsd_stat.dat ../12voicedata/allpole/test_sd_riC0_0ytm1_0.9N40.dat
#selected n18 <FP>0.00288564+-0.00501104 <FN>0.190625+-0.208323 TotalUncertainty0.0539505(k2)
0 0.01 2.06085e-16 0.01 0.01 0 1 0.01 0.01 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pmax<-0Accept 1Rejec
t(pA0.89,pR0.38)
1 0.817384 0.428816 -0.282762 0.979942 0.853 0.088 0.01 0.920496 #t <p> UC <p>-UC- <p>+UC+ rA rR pmi
n pmax<-0.853Accept 0.088Reject(pA0.89,pR0.38)
2 0.940191 0.230776 0.395996 1.01958 0.857 0.014 0.0186579 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
 pmax<-0.857Accept 0.014Reject(pA0.89,pR0.38)
3 0.963334 0.166104 0.57719 1.00593 0.947 0.011 0.0413364 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
pmax<-0.947Accept 0.011Reject(pA0.89,pR0.38)
4 0.974917 0.108818 0.687994 0.998528 0.96 0.004 0.164598 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
pmax<-0.96Accept 0.004Reject(pA0.89,pR0.38)
5 0.979099 0.0764535 0.779294 0.996354 0.97 0.001 0.307785 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
 pmax<-0.97Accept 0.001Reject(pA0.89,pR0.38)
6 0.981443 0.0644398 0.819862 0.995096 0.98 0.001 0.226104 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
 pmax<-0.98Accept 0.001Reject(pA0.89,pR0.38)
7 0.983051 0.0514785 0.853169 0.994054 0.985 0 0.485062 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.985Accept 0Reject(pA0.89,pR0.38)
8 0.983888 0.0504856 0.856449 0.993614 0.988 0 0.384955 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.988Accept 0Reject(pA0.89,pR0.38)
9 0.984671 0.0435382 0.875499 0.993103 0.991 0 0.480712 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.991Accept 0Reject(pA0.89,pR0.38)
10 0.985513 0.037018 0.894984 0.992648 0.993 0 0.542637 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.993Accept 0Reject(pA0.89,pR0.38)
#t=4で0.97Acceptを達成（推定値はpA0.95)
#t=10で指定話者指定数字列（riC0_0）に対し間違ってRejectしない(0Reject)ことが分かる
#このとき99.3%受理し、残りの0.6%は保留される。
#
0 0.01 2.06085e-16 0.01 0.01 0 1 0.01 0.01 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pmax<-0Accept 1Rejec
t(pA0.85,pR0.42)
1 0.817384 0.428816 -0.282762 0.979942 0.867 0.125 0.01 0.920496 #t <p> UC <p>-UC- <p>+UC+ rA rR pmi
n pmax<-0.867Accept 0.125Reject(pA0.85,pR0.42)
2 0.940191 0.230776 0.395996 1.01958 0.872 0.017 0.0186579 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
 pmax<-0.872Accept 0.017Reject(pA0.85,pR0.42)
3 0.963334 0.166104 0.57719 1.00593 0.965 0.011 0.0413364 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
pmax<-0.965Accept 0.011Reject(pA0.85,pR0.42)
4 0.974917 0.108818 0.687994 0.998528 0.97 0.005 0.164598 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin
pmax<-0.97Accept 0.005Reject(pA0.85,pR0.42)
5 0.979099 0.0764535 0.779294 0.996354 0.983 0.001 0.307785 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmi
n pmax<-0.983Accept 0.001Reject(pA0.85,pR0.42)
6 0.981443 0.0644398 0.819862 0.995096 0.988 0.001 0.226104 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmi
n pmax<-0.988Accept 0.001Reject(pA0.85,pR0.42)
7 0.983051 0.0514785 0.853169 0.994054 0.99 0 0.485062 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pma
x<-0.99Accept 0Reject(pA0.85,pR0.42)
8 0.983888 0.0504856 0.856449 0.993614 0.994 0.001 0.384955 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmi
n pmax<-0.994Accept 0.001Reject(pA0.85,pR0.42)
9 0.984671 0.0435382 0.875499 0.993103 0.995 0 0.480712 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.995Accept 0Reject(pA0.85,pR0.42)
10 0.985513 0.037018 0.894984 0.992648 0.996 0 0.542637 0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin pm
ax<-0.996Accept 0Reject(pA0.85,pR0.42)
#t=4で0.97Acceptを達成（推定値はpA0.95)
#t=10で指定話者指定数字列（riC0_0）に対し間違ってRejectしない(0Reject)ことが分かる
#このとき99.6%受理し、残りの0.4%は保留される。

(20130211) 3.4-5 話者数字列照合:指定話者＋90%非指定数字列をテスト 新手法 ytm:1:0.9:1000
pART=pART:.85:.42:4 #下の 3.5-1 でriC0_0の95%の下限と、riC0_0.9の95%の上限として求めた
pART=pART:.89:.38:5 #この図でt=5におけるriC0_0のエラーバ—の下限(95%)と、riC0_0.9のエラーバーの上限(
95%)として求めた
# T=10でriC0_0でrR=0(間違ってRejectしない）, riC0_0.9でrA=0（間違ってAcceptしない）になる？
speakerdigit_v fsd:../12voicedata/allpole/oob4sd:-1N40mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 $pART
 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-
2 test:4:1000:0:0.9 ; grep selected tmp/testsd.dat
```

[Two columns of dense log/data output — numbered lines (13184–13234 and 13231–13304) containing model-testing command lines, numeric result values, and Accept/Reject annotations, e.g. "cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_d_riC0_0.75ytml_0.9N40.dat", "grep selected tmp/testsd.dat", and rows of floating-point numbers such as "0.99 #t <p> UC <p>-UC- <p>+UC+ rA rR pmin". Also interspersed Japanese explanatory text (vertical tategaki) concerning テキスト指定話者照合, 数字列照合, CAN2, 話者数字, 汎化能力 evaluation, dated 2013/02/08, 2013/02/11.]

```
13305 #result in '../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y' and '../12voicedata/allpole/oob4d:-
1N50mbas2:300:1.6:1.ystat'.
13306 #参考#
13307 #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
i:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd:-1 N:50
13308 1.00000 0.99275 0.00725 0.00000 1.03520e-05 700 0 0 #TP,TN,FP,FN,ERR,n,sm0 txm0
13309 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 0 1 #TP,TN,FP,FN,ERR,n,sm0 txm1
13310 0.90000 0.99565 0.00435 0.10000 4.12857e-04 700 0 2 #TP,TN,FP,FN,ERR,n,sm0 txm2
13311 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 0 3 #TP,TN,FP,FN,ERR,n,sm0 txm3
13312 1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 0 4 #TP,TN,FP,FN,ERR,n,sm0 txm4
13313 1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 0 5 #TP,TN,FP,FN,ERR,n,sm0 txm5
13314 1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 0 6 #TP,TN,FP,FN,ERR,n,sm0 txm6
13315 1.00000 0.99855 0.00145 0.00000 6.21118e-06 700 0 7 #TP,TN,FP,FN,ERR,n,sm0 txm7
13316 1.00000 0.99855 0.00145 0.00000 6.21118e-06 700 0 8 #TP,TN,FP,FN,ERR,n,sm0 txm8
13317 1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 0 9 #TP,TN,FP,FN,ERR,n,sm0 txm9
13318 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 1 0 #TP,TN,FP,FN,ERR,n,sm1 txm0     ->0.7below
13319 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 1 1 #TP,TN,FP,FN,ERR,n,sm1 txm1
13320 0.50000 0.99855 0.00145 0.50000 7.14286e-04 700 1 2 #TP,TN,FP,FN,ERR,n,sm1 txm2  ?  ->0.7below
13321 1.00000 0.99855 0.00145 0.00000 1.03520e-05 700 1 4 #TP,TN,FP,FN,ERR,n,sm1 txm4
13322 1.00000 0.99275 0.00725 0.00000 1.03520e-05 700 1 5 #TP,TN,FP,FN,ERR,n,sm1 txm5
13323 0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 1 6 #TP,TN,FP,FN,ERR,n,sm1 txm6
13324 0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 1 7 #TP,TN,FP,FN,ERR,n,sm1 txm7
13325 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 1 8 #TP,TN,FP,FN,ERR,n,sm1 txm8  ?  ->0.7below
13326 0.60000 0.99565 0.00435 0.40000 5.77640e-04 700 1 9 #TP,TN,FP,FN,ERR,n,sm1 txm9
13327 1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 2 0 #TP,TN,FP,FN,ERR,n,sm2 txm0
13328 0.80000 0.99710 0.00290 0.20000 2.89855e-04 700 2 1 #TP,TN,FP,FN,ERR,n,sm2 txm1
13329 0.90000 0.98986 0.01014 0.10000 1.53209e-04 700 2 2 #TP,TN,FP,FN,ERR,n,sm2 txm2  ?  ->0.7below
13330 0.50000 0.98841 0.01159 0.50000 7.30849e-04 700 2 4 #TP,TN,FP,FN,ERR,n,sm2 txm4
13331 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 2 5 #TP,TN,FP,FN,ERR,n,sm2 txm5
13332 0.90000 0.99275 0.00725 0.10000 1.53209e-04 700 2 6 #TP,TN,FP,FN,ERR,n,sm2 txm6
13333 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 2 7 #TP,TN,FP,FN,ERR,n,sm2 txm7
13334 0.90000 0.99710 0.00290 0.10000 1.55280e-04 700 2 8 #TP,TN,FP,FN,ERR,n,sm2 txm8
13335 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 2 9 #TP,TN,FP,FN,ERR,n,sm2 txm9
13336 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 3 0 #TP,TN,FP,FN,ERR,n,sm3 txm0
13337 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 3 1 #TP,TN,FP,FN,ERR,n,sm3 txm1
13338 0.90000 0.98986 0.01014 0.10000 1.44928e-04 700 3 3 #TP,TN,FP,FN,ERR,n,sm3 txm3     -
13339 1.00000 0.99275 0.00725 0.00000 1.03520e-05 700 3 4 #TP,TN,FP,FN,ERR,n,sm3 txm4
13340 0.90000 0.99275 0.00725 0.10000 1.53209e-04 700 3 5 #TP,TN,FP,FN,ERR,n,sm3 txm5
13341 0.80000 1.00000 0.00000 0.20000 2.85714e-04 700 3 6 #TP,TN,FP,FN,ERR,n,sm3 txm6
13342 1.00000 0.99710 0.00290 0.00000 4.14079e-06 700 3 7 #TP,TN,FP,FN,ERR,n,sm3 txm7
13343 0.80000 0.99855 0.00145 0.20000 2.85714e-04 700 3 8 #TP,TN,FP,FN,ERR,n,sm3 txm8
13344 0.70000 0.99565 0.00435 0.30000 4.30642e-04 700 3 9 #TP,TN,FP,FN,ERR,n,sm3 txm9
13345 0.60000 0.98986 0.01014 0.40000 5.71429e-04 700 4 0 #TP,TN,FP,FN,ERR,n,sm4 txm0  ?
13346 0.90000 0.99275 0.00725 0.10000 1.42857e-04 700 4 1 #TP,TN,FP,FN,ERR,n,sm4 txm1
13347 0.90000 0.99275 0.00725 0.10000 1.53209e-04 700 4 3 #TP,TN,FP,FN,ERR,n,sm4 txm3
13348 0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 4 4 #TP,TN,FP,FN,ERR,n,sm4 txm4
13349 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 4 5 #TP,TN,FP,FN,ERR,n,sm4 txm5
13350 0.70000 0.98406 0.01594 0.30000 4.51346e-04 700 4 6 #TP,TN,FP,FN,ERR,n,sm4 txm6
13351 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 4 8 #TP,TN,FP,FN,ERR,n,sm4 txm8
13352 0.90000 0.99275 0.00725 0.10000 1.53209e-04 700 4 9 #TP,TN,FP,FN,ERR,n,sm4 txm9
13353 0.90000 0.99855 0.00145 0.10000 1.42857e-04 700 5 0 #TP,TN,FP,FN,ERR,n,sm5 txm0
13354 0.80000 0.99420 0.00580 0.20000 2.93996e-04 700 5 1 #TP,TN,FP,FN,ERR,n,sm5 txm1
13355 0.70000 0.99565 0.00435 0.30000 4.34783e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4
13356 0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 5 5 #TP,TN,FP,FN,ERR,n,sm5 txm5
13357 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 5 6 #TP,TN,FP,FN,ERR,n,sm5 txm6
13358 0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 5 7 #TP,TN,FP,FN,ERR,n,sm5 txm7
13359 0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 5 8 #TP,TN,FP,FN,ERR,n,sm5 txm8
13360 0.90000 0.99420 0.00580 0.10000 1.46998e-04 700 5 9 #TP,TN,FP,FN,ERR,n,sm5 txm9
13361 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 6 0 #TP,TN,FP,FN,ERR,n,sm6 txm0
13362 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 6 1 #TP,TN,FP,FN,ERR,n,sm6 txm1
13363 0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 6 3 #TP,TN,FP,FN,ERR,n,sm6 txm3
13364 0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 6 4 #TP,TN,FP,FN,ERR,n,sm6 txm4
13365 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 6 5 #TP,TN,FP,FN,ERR,n,sm6 txm5
13366 0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 6 6 #TP,TN,FP,FN,ERR,n,sm6 txm6
13367 1.00000 0.99855 0.00145 0.00000 2.07039e-06 700 6 7 #TP,TN,FP,FN,ERR,n,sm6 txm7
13368 0.90000 0.99565 0.00435 0.10000 1.44928e-04 700 6 8 #TP,TN,FP,FN,ERR,n,sm6 txm8
13369 0.90000 0.99130 0.00870 0.10000 1.55280e-04 700 6 9 #TP,TN,FP,FN,ERR,n,sm6 txm9
13370 0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 7 0 #TP,TN,FP,FN,ERR,n,sm7 txm0
13371 0.90000 0.99565 0.00435 0.10000 1.46998e-04 700 7 1 #TP,TN,FP,FN,ERR,n,sm7 txm1
13372 0.90000 0.99855 0.00145 0.10000 4.12857e-04 700 7 2 #TP,TN,FP,FN,ERR,n,sm7 txm2
13373 0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 7 3 #TP,TN,FP,FN,ERR,n,sm7 txm3
13374 0.80000 0.99855 0.00145 0.20000 2.89855e-04 700 7 4 #TP,TN,FP,FN,ERR,n,sm7 txm4
13375 1.00000 0.99565 0.00435 0.00000 6.21118e-06 700 7 5 #TP,TN,FP,FN,ERR,n,sm7 txm5
13376 0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 7 6 #TP,TN,FP,FN,ERR,n,sm7 txm6
13377 0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 7 9 #TP,TN,FP,FN,ERR,n,sm7 txm9
13378 #result in '../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y' and '../12voicedata/allpole/oob4sd
:-1N50mbas2:300:1.6:1.ystat'.
13379 #参考#
13380 #参考#oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
u ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd1:1:2 N:30
13381 #参考#0.70000 0.98915 0.30000 4.30642e-04 700 1 2 #TP,TN,FP,FN,ERR,n,sm1 txm2
13382 #参考##result in '../12voicedata/allpole/oob4sd:1:2N30mbas2:300:1.6:1.y' and '../12voicedata/allpole
```

```
/oob4sd1:2N30mbas2:300:1.6:1.ystat'.
13383 #参考#
13384 #参考#oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
u ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd:2:2 N:30
13385 #参考#0.70000 0.98696 0.01304 0.30000 4.47205e-04 700 2 2 #TP,TN,FP,FN,ERR,n,sm2 txm2
13386 #参考##result in '../12voicedata/allpole/oob4sd:2:2N30mbas2:300:1.6:1.y' and '../12voicedata/allpole
/oob4sd:2:2N30mbas2:300:1.6:1.ystat'.
13387 #参考#oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
u ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd:1:8 N:30
13388 #参考#0.70000 1.00000 0.00000 0.30000 4.28571e-04 700 1 8 #TP,TN,FP,FN,ERR,n,sm1 txm8
13389 #参考##result in '../12voicedata/allpole/oob4sd:1:8N30mbas2:300:1.6:1.y' and '../12voicedata/allpole
/oob4sd:1:8N30mbas2:300:1.6:1.ystat'.
13390 #参考#
13391 #参考#oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:ky
u ntxi:10 k:36 mbas:2:300:1.6:1 dir:../12voicedata/allpole sd:3:7 N:40
13392 #参考#0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 3 7 #TP,TN,FP,FN,ERR,n,sm3 txm7
13393 #参考##result in '../12voicedata/allpole/oob4sd:3:7N40mbas2:300:1.6:1.y' and '../12voicedata/allpole
/oob4sd:3:7N40mbas2:300:1.6:1.ystat'.
13394 #参考#
13395 #参考#td=../12voicedata/allpole
13396 #参考#cat oob4sd:-1N50mbas2:300:1.6:1.y >> $d/allpole/oob4sd.y
13397 #参考#p $d/oob4sd:-1N50mbas2:300:1.6:1.y >> $d/allpole/oob4sd.y
13398 #参考#cat oob4sd:2:2N30mbas2:300:1.6:1.y >> $d/allpole/oob4sd.y
13399 #参考#cat oob4sd:1:8N30mbas2:300:1.6:1.y >> $d/allpole/oob4sd.y
13400 #参考#
13401
13402 3. 数字列指定形話者照合の評価実験
13403 3.1 話者CAN2による話者照合
13404 3.1-1 話者照合：指定話者＋指定数字列をテスト　新手法 ytm:1:0.9:1000
13405 speakerdigit_v fs:../12voicedata/allpole/oob4s:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13406 :9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13406 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s_riC0_0ytml_0.9.dat
13407 #10 0.978426 0.0924571 #t <p> uncertainty_p(k2) <-- Accept!
13408 #selected n337 <FP>0.03+-0 <FN>0.064+-0.0282135 TotalUncertainty0.0142409(k2)
13409
13410 3.1-2 話者照合：非指定話者＋指定数字列をテスト　新手法 ytm:1:0.9:1000
13411 speakerdigit_v fs:../12voicedata/allpole/oob4s:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:1:1 ; grep selected tmp/testsd.dat
13412 :9 ver:-2 test:4:1000:1:1 ; grep selected tmp/testsd.dat
13413 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s_riC1_1ytml_0.9.dat
13414 #10 0.976367 0.112299 #t <p> uncertainty_p(k2) <-- Reject!
13415
13416 3.1-3 話者照合：指定話者＋非指定数字列をテスト　新手法 ytm:1:0.9:1000
13417 speakerdigit_v fs:../12voicedata/allpole/oob4s:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:1 ; grep selected tmp/testsd.dat
13417 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s_riC1_1ytml_0.9.dat
13418 #10 0.985457 0.0353956 #t <p> uncertainty_p(k2) <-- Accept!
13419
13420 3.1-4 話者照合：指定話者＋90%非指定数字列をテスト　新手法 ytm:1:0.9:1000
13421 speakerdigit_v fs:../12voicedata/allpole/oob4s:-1N50mbas2:300:1.6:1.y sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:1:1 ; grep selected tmp/testsd.dat
13422 :9 ver:-2 test:4:1000:0:0.9 ; grep selected tmp/testsd.dat
13422 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_s_riC0_0.9ytml_0.9.dat
13423 #10 0.9783 0.0872684 #t <p> uncertainty_p(k2) <-- Accept!
13424
13425 3.1-5 話者照合：指定話者＋90%指定数字列をテスト　新手法 ytm:1:0.9:1000
13426 speakerdigit_v fs:../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:0.9 ; grep selected tmp/testsd.dat
13427 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_d_riC0_0ytml_0.9.dat
13428 #selected n266 <FP>0.0142857+-6.93889e-18 <FN>0.0605042+-0.0367064 TotalUncertainty0.0197034(k2)
13429
13430 3.2-1 数字列照合による数字列照合
13431 3.2-1 話者照合：指定話者＋指定数字列をテスト　新手法 ytm:1:0.9:1000
13432 speakerdigit_v fd:../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13433 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_d_riC0_0ytml_0.9.dat
13434 #10 0.985457 0.0353956 #t <p> uncertainty_p(k2) <-- Accept!
13435 #selected n266 <FP>0.0142857+-6.93889e-18 <FN>0.0605042+-0.0367064 TotalUncertainty0.0197034(k2)
13436
13437 3.2-2 数字列照合：非指定話者＋指定数字列をテスト　新手法 ytm:1:0.9:1000
13438 speakerdigit_v fd:../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
5:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:1:0 ; grep selected tmp/testsd.dat
13439 cp tmp/testsd_stat.dat ../12voicedata/allpole/test_d_riC1_0ytml_0.9.dat
13440 #10 0.984677 0.0446509 #t <p> uncertainty_p(k2) <-- Accept!
13441
13442 3.2-3 数字列照合：指定話者＋非指定数字列をテスト　新手法 ytm:1:0.9:1000
13443 speakerdigit_v fd:../12voicedata/allpole/oob4d:-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
```

```
5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:1 ; grep selected tmp/testsd.dat
13444    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_d_riC0_lytm1_0.9.dat
13446    #10 0.0112802 0.00916423 #t <p> uncertainty_p(k2) <-- Reject!
13447 3.2-4 数字列照合＋非指定話者をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fd:../l2voicedata/allpole/oob4d1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
13448   5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:1 ; grep selected tmp/testsd.dat
13449    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_d_riC1_lytm1_0.9.dat
13450    #10 0.0114425 0.00955936 #t <p> uncertainty_p(k2) <-- Reject!
13451
13452 3.2-5 数字列照合＝指定話者＋90%非指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fd:../l2voicedata/allpole/oob4d1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:.5
13453   5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:1 ; grep selected tmp/testsd.dat
13454    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_d_riC0_0.9ytm1_0.9.dat
13455    #10 0.0426942 0.132212 #t <p> uncertainty_p(k2) <-- Reject!
13456
13457 3.3 結果の視覚化と考察
13458 3.3-1 視覚化
13459    cd ../l2voicedata/allpole/
13460    gnuplot
13461    plot "test_s_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13463    "test_s_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13464    "test_s_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13465    "test_s_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13466
13467    plot "test_d_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13468    "test_d_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13469    "test_d_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13470    "test_d_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13471    "test_d_riC0_0.9ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13472
13473 3.3-2 考察
13474 1.話者照合のみでは第2数字目から、受理すべき事後確率と乗却すべき事後確率の95%誤差範囲が
      重ならない値は少ない。受理のしきい値はpA=0.4、乗却のしきい値pR=0.2程度すれば良い。
13475 2.数字を1数字3ステップづつから、受理すべき事後確率と乗却の95%誤差範囲が重
      ならない。受理のしきい値はpA=0.69、乗却のしきい値pR=0.46程度とすれば良い。
13477 3.数字が0～9までをランダムに着弄する2と1/10の割合で正解、あるいは0.9の確率で不正解に
13478    なると期待できるので最後段のriC0_0.9の例はその場合を示す。話者照合では受理が良い。
13479 4.照合で乗却になるので、結果として乗却する数値は3以上であれば良い。実用的でもある。
13480
13482 3.4 話者数字CAN2による数字列照合
13483 3.4-1 話者数字列照合＝指定話者＋指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13484   :5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13485    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC0_0ytm1_0.9.dat
13486    #10 0.985792 0.0307949 #t <p> uncertainty_p(k2) <-- Accept!
13487    #selected n0 <FP>0.00135046+-0.00401117 <FN>0.254545+-0.260958 TotalUncertainty0.065355(k2)
13488
13490 3.4-3 話者数字列照合＝指定話者＋非指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13491   :5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:1:0 ; grep selected tmp/testsd.dat
13492    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC1_0ytm1_0.9.dat
13493    #10 0.0481863 0.0765256 #t <p> uncertainty_p(k2) <-- Reject!
13494
13495 3.4-5 話者数字列照合＝指定話者＋90%非指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13496   :8:9 ver:-2 test:4:1000:0:1 ; grep selected tmp/testsd.dat
13497    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC0_0.9ytm1_0.9.dat
13498    #10 0.0475519 0.066702 #t <p> uncertainty_p(k2) <-- Reject!
13499 3.4-4 話者数字列照合＝非指定話者＋指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13500   :5:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:1:1 ; grep selected tmp/testsd.dat
13501    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC1_0.9ytm1_0.9.dat
13503    #10 0.0457095 0.0539679 #t <p> uncertainty_p(k2) <-- Reject!
13504 3.4-5 話者数字列照合＝指定話者＋90%非指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13506   :8:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13507    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC0_0.9ytm1_0.9.dat
13508    #10 0.122674 0.243889 #t <p> uncertainty_p(k2) <-- Reject!
13509 3.5 結果の視覚化と考察
```

```
13510 3.5-1 視覚化
13511    cd ../l2voicedata/allpole/
13512    gnuplot
13513
13514    plot "test_sd_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13515    "test_sd_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13516    "test_sd_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13517    "test_sd_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13518    "test_sd_riC0_0.9ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13519 (2)
13520    plot "test_s_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13521    "test_s_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13522    "test_s_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13523    "test_s_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13524    "test_s_riC0_0.9ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13525 (3)
13526    plot "test_sd_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13527    "test_sd_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13528    "test_sd_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13529    "test_sd_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13530 (4)
13531    plot "test_s_riC0_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13532    "test_s_riC1_0ytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13533    "test_s_riC0_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13534    "test_s_riC1_lytm1_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13535
13536 3.5-2 考察
13537 (1) (1)は指定話者と指定数字列の場合（riC0_0）のみ受理され、受理と乗却は第2数字目からしきい値
        で分けることができることを示す。
13538 (2) (3)と(4)はそれぞれテキスト独立の話者照合を実施し、テキスト依存は
13539    第1数字だからしきい値による受理と乗却が可能である。第2数字から独立は第2数字を使う場合との比較は、
13540 (3)話者数字CAN2を使う場合、と話者CAN2と数字列CAN2を使う場合とで済む。
13541    ・前者は学習に時間がかかるが、後者は受理は受理できるが不正解か数字列が分からないが、後者は分かる。
13542    ・前者は、乗却のとき話者が不正解か数字列が分からないが、後者は分かる。
13543
13544
13546 3.6 Bayes法との比較
13547 3.6-1 話者数字列照合＝指定話者＋指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13548   :55:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:0 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13549    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC0_0ytm1_0.9_bayes.dat
13550    10 0.986879 0.0491611 #t <p> uncertainty_p(k2) <-- Accept!
13551
13552 3.6-2 話者数字列照合＝指定話者＋90%非指定数字列をテスト 新手法 ytm1:1:0.9:1000
        speakerdigit_v fsd:../l2voicedata/allpole/oob4sd1-1N50mbas2:300:1.6:1.y nSDL:7:10:10 pmin:0.01 pART:
13553   :55:0.25:4 ytm1:1:0.9:1000 PNr:0.9 void:0 gibbs:0 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat
13554    cp tmp/testsd_stat.dat ../l2voicedata/allpole/test_sd_riC0_0.9ytm1_0.9_bayes.dat
13556    10 0.133885 0.567313 #t <p> uncertainty_p(k2) <-- Reject!
13557
13558 3.6-3 視覚化と考察
13559    cd ../l2voicedata/allpole/
13560    gnuplot
13561    plot "test_sd_riC0_0ytm1_0.9_bayes.dat" using 1:2 w l, "" using 1:2:3 w errorbars, \
13562    (1)Bayes法では乗却域がかなり大きく、 受理域と乗却数の増加とも数字数の
13563    (2)Gibbsの受理域と乗却域は数字数で異なり、受理、乗却域は乗却より正確になる？
13564
13565 3.7 今後の実験と考察
13566 (1)実際にしきい値を設定したときの受理と乗却の確率を求めること
13567 (2)未登録話者が入力するとどうなるか
13569
13570 ---------------------------
13571 (1)方法の見直し
13572 2013/02/07
13573 (1)speakerdigit_v.cのしきい値ythの選択法を新しくした。
13574    method=0 従来の上り正例の平均P[m]と負例の平均meanN[m]の PNr で内分する点をyth
13575    が小さくなるyth  <ytha>>0: -ytha から ytha まで を<nyth>等分してythを p_{FP}と p_{FN}の分散
13576    本バージョンでは、yth
13577    NEW: v_{FP}=(\sum_m ( p_{FP}) と p_{FN}の分散、 FP と FNの各データに対する分散として求めた！
13578         v_{FP}=(\sum_m ( p^{m}_{FP} - \bar p^{m}_{FP} )^2 ) / M   (Mは CAN2^mの個数)
13579         なお p_{FP}) と p_{FN}の分散を、次の式
13580    OLD: v_{FP}=(\sum_m ( p^{m}_{FP} - \bar p^{m}_{FP} )^2 ) / M   #OLD#2013/02/07 のところは こ
13581 の      のように各 mに対して求めるやり方が直感的にすぐに思い付く。 下の NEWの方法の結果の方が良かったので以下では検討
13582    結果を示している。しかし、上の方法の結果の方が良かったので以下では検討しない。またこ の
13583    現プログラムでは使えない。また、次のオプションも可能。
13584    <method=1 speakerdigit_v.cのしきい値ythのオプション>
13585    ネバージョンでは=0: ymeanN[m]から ymeanN[m]まで を<nyth>等分してくth等分してyth等分して yth、 <ytha>=0.9 とし上の方法では良かったので以下では検討
機能は  <ytha=1, <ytha>までとし、<ytha>を<nyth>から yth等分して yth、 <ytha>=0.9 とし上の方法の方が良かったので以下では検討
```

```
13696  #10 0.944957 0.194481 #t <p> uncertainty_p(k2) <-- Accept!
13697  #selected n349 <FP>>0.349206+-1.38778e-17 <FN>>0.119218+-0.0651669 TotalUncertainty0.0377743(k2)
13698
13699  (2-3-2) 数字列照合：指定話者＋非指定数字列をテスト 新手法 ytm:1:0.9:1000
13700  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9
ver:-2 test:4:1000:0:1: grep selected tmp/testsd.dat #incorrect speaker and digit
13701  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_1ytm0_0.9.dat
13702  #10 0.0360632 0.045704 #t <p> uncertainty_p(k2) <-- Reject!
13703
13704  (2-3-2') 数字列照合：非指定話者＋指定数字列をテスト 新手法 ytm:1:0.9:1000
13705  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9
ver:-2 test:4:1000:0:1: grep selected tmp/testsd.dat #incorrect speaker and digit
13706  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC1_1ytm0_0.9.dat
13707  #10 0.943795 0.183105 #t <p> uncertainty_p(k2) <-- Accept!
13708
13709  (2-3-3) 数字列照合：非指定話者＋指定数字列をテスト 新手法 ytm:1:0.9:1000
13710  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9
ver:-2 test:4:1000:1:1: grep selected tmp/testsd.dat #incorrect speaker and digit
13711  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC1_1ytm0_0.9.dat
13712  10 0.0339631 0.0379863 #t <p> uncertainty_p(k2) <-- Reject!
13713
13714  (2-3-4) 数字列照合：指定話者＋指定数字列をテスト 従来法 ytm:0 PNr:0.9
13715  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:4:1000:0:0: grep selected tmp/testsd.dat #correct speaker and digit
13716  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0ytm0.dat
13717  #10 0.937052 0.203156 #t <p> uncertainty_p(k2) <-- Accept!  uncertainty worse than (2-3-1)
13718
13719  (2-3-5) 数字列照合：指定話者＋非指定数字列をテスト 従来法 ytm:0 PNr:0.9
13720  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:4:1000:0:1: grep selected tmp/testsd.dat #correct speaker and digit
13721  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0ytm0.dat
13722  #10 0.0574392 0.074655 #t <p> uncertainty_p(k2) <-- Reject!  uncertainty worse than (2-3-2)
13723
13724  (2-3-4') 数字列照合：指定話者＋指定数字列をテスト 従来法 ytm:0 PNr:0.9
13725  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:4:1000:1:0: grep selected tmp/testsd.dat #correct speaker and digit
13726  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC1_0ytm0.dat
13727  #10 0.934463 0.204551 #t <p> uncertainty_p(k2) <-- Accept!
13728
13729  (2-3-5') 数字列照合：指定話者＋非指定数字列をテスト 従来法 ytm:0 PNr:0.9
13730  speakerdigit_v fd:../l2voicedata/allpole/oob4dN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::55:0
.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:4:1000:1:1: grep selected tmp/testsd.dat #correct speaker and digit
13731  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC1_0ytm0.dat
13732  #10 0.0545729 0.0706459 #t <p> uncertainty_p(k2) <-- Reject!  uncertainty worse than (2-3-3)
13733
13734  (2-3-6) 結果を視覚的にチェック
13735  cd ../l2voicedata/allpole/
13736  gnuplot
13737  plot "testsd_stat_d_riC0_0ytm0_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_ri
C0_1ytm0_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC1_0ytm0_0.9.dat" using 1:2 w
l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC1_1ytm0_0.9.dat" using 1:2 w l, "" using
13738  plot "testsd_stat_d_riC0_0ytm0.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13739  #見た目には差はあまり変わらないが、上の数字列の uncertainty は新手法の方が良いことを考えると、
13740  #両手法とも数字列から受理の判断を（塚崎）と(2-3)で行う方法（植木）を比べてみると
13741  #数字列指定話者認識論を(2-2)で行う方法と(2-3)で行う方法
13742
13743  (2-4) 数字列照合：指定話者＋x%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13744  (2-4-0) 学習を行う
13745  oob4speakerdigit+ sp:fhs:fms:mkk:mko:mnt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:10 k:36 mbas:2:300:1.0:1 dir:../l2voicedata/allpole d:-1 N50
13746  #cat ../l2voicedata/allpole/oob4di:-1N50mbas2:300:1.0:1.ystat
13747  #10 0.87143 0.98889 0.01111 0.12857 1.99546e-04 700 0 #TP,TN,FP,FN,ERR,n,txm0
13748  #10 0.94286 0.99206 0.00794 0.05714 9.29705e-05 700 4 #TP,TN,FP,FN,ERR,n,txm1  O
13749  #10 0.92857 0.99048 0.00952 0.07143 1.15646e-04 700 2 #TP,TN,FP,FN,ERR,n,txm2  O
13750  #10 0.82857 0.97937 0.02063 0.17143 2.74376e-04 700 3 #TP,TN,FP,FN,ERR,n,txm3  --
13751  #10 0.85714 0.97619 0.02381 0.14286 2.38095e-04 700 4 #TP,TN,FP,FN,ERR,n,txm4
13752  #10 0.98571 1.00000 0.00000 0.01429 2.04082e-05 700 5 #TP,TN,FP,FN,ERR,n,txm5  O
13753  #10 0.87143 0.96825 0.03175 0.12857 2.09612e-04 700 6 #TP,TN,FP,FN,ERR,n,txm6  --
13754  #10 0.88571 0.96825 0.03175 0.11429 2.02902e-04 700 7 #TP,TN,FP,FN,ERR,n,txm7  --
13755  #10 0.94286 0.98254 0.01746 0.05714 1.06576e-04 700 8 #TP,TN,FP,FN,ERR,n,txm8  --
13756  #10 0.88571 1.00000 0.00000 0.11429 1.63265e-04 700 9 #TP,TN,FP,FN,ERR,n,txm9
13757  #saved in ../l2voicedata/allpole/oob4di:-1N50mbas2:300:1.0:1.y
13758
```

```
13759  (2-4-1) 数字列照合：指定話者＋0%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13760  speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::5
:9:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8
:9 ver:-2 test:4:1000:0:0: grep selected tmp/testsd.dat #incorrect speaker and digit
13761  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0ytm0_0.9_new.dat
13762  #10 0.953373 0.162134 #t <p> uncertainty_p(k2) <-- Accept!
13763  #selected n0 <FP>0.00479709+-0.00680731 <FN>0.324+-0.106666 TotalUncertainty0.0358999(k2)
13764  #selected n0
13765  (2-4-2) 数字列照合：指定話者＋90%非指定数字列をテスト 新手法 ytm:1:0.9:1000 ランダムに発すると9/nD=0
.9=90%間違う
13766  speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::5
:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9
:9 ver:-2 test:4:1000:0:0: grep selected tmp/testsd.dat #incorrect speaker and digit
13767  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0ytm0_0.9_new.dat
13768  #10 0.108436 0.186707 #t <p> uncertainty_p(k2) <-- Reject!
13769
13770  (2-4-3) 数字列照合：指定話者＋100%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13771  speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01 pART::5
:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9
:9 ver:-2 test:4:1000:0:1: grep selected tmp/testsd.dat #incorrect speaker and digit
13772  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_1ytm0_0.9_new.dat
13773  #10 0.0556793 0.0865766 #t <p> uncertainty_p(k2) <-- Reject!
13774
13775  (2-4-4) 結果を視覚的にチェック
13776  cd ../l2voicedata/allpole/
13777  gnuplot
13778  plot "testsd_stat_d_riC0_0ytm0_0.9_new.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_
d_riC0_0ytm0_0.9_new.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_1ytm0_0.9_new.dat"
" using 1:2 w l, "" using 1:2:3 w errorbars
13779  #指定話者があらかじめ録音した数字列を用いる場合、指定数字列との違いの割合の期待値は90%であり、これを
13780  #実験したのが上の結果である。これはこのケースを除いた結果を示す。
13781
13782  #Trial#(2-4-3) 数字列照合：指定話者＋20%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13783  #Trial#speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01
pART::55:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:
5:6:7:8:9 ver:-2 test:4:1000:0:0: grep selected tmp/testsd.dat #incorrect speaker and digit
13784  #Trial#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0.2ytm0_0.9_new.dat
13785  #Trial##10 0.865368 0.296352 #t <p> uncertainty_p(k2) <-- Accept!
13786  #Trial#
13787  #Trial#(2-4-4) 数字列照合：指定話者＋50%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13788  #Trial#speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01
pART::55:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:
5:6:7:8:9 ver:-2 test:4:1000:0:0.5: grep selected tmp/testsd.dat #incorrect speaker and digit
13789  #Trial#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0.5ytm0_0.9_new.dat
13790  #Trial##10 0.565011 0.4961 #t <p> uncertainty_p(k2) <-- Accept!
13791  #Trial#
13792  #Trial#(2-4-5) 数字列照合：指定話者＋50%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13793  #Trial#speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01
pART::55:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:
5:6:7:8:9 ver:-2 test:4:1000:0:0.55: grep selected tmp/testsd.dat #incorrect speaker and digit
13794  #Trial#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0.55ytm0_0.9_new.dat
13795  #Trial##10 0.501704 0.49024 #t <p> uncertainty_p(k2)
13796  #Trial#
13797  #Trial#(2-4-6) 数字列照合：指定話者＋60%非指定数字列をテスト 新手法 ytm:1:0.9:1000
13798  #Trial#speakerdigit_v fd:../l2voicedata/allpole/oob4di-1N50mbas2:300:0.7:1.y nSDL:7:10:10 pmin:0.01
pART::55:0.25:4 ytm:1:0.9.1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:
5:6:7:8:9 ver:-2 test:4:1000:0:0.6: grep selected tmp/testsd.dat #incorrect speaker and digit
13799  #Trial#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d_riC0_0.6ytm0_0.9_new.dat
13800  #Trial##10 0.431168 0.489644 #t <p> uncertainty_p(k2)
13801  #Trial#
13802  #Trial#
13803  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdP:0:0:1:2:3:4: #incorrect speaker and digit
13804  :1000:0:0.1: grep selected tmp/testsd.dat #incorrect speaker and digit
13805  #Trial#
13806  #Trial#
13807  #Trial#
13808  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdP:0:0:1:2:3:4:
:1000:0:0.2: grep selected tmp/testsd.dat #incorrect speaker and digit
13809  #Trial#
13810  #Trial#
13811  #Trial#
13812  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdP:0:0:1:2:3:4:
:1000:0:0.3: grep selected tmp/testsd.dat #incorrect speaker and digit
13813  #Trial#
13814  #Trial#
13815  #Trial#
13816  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdP:0:0:1:2:3:4:
:1000:0:0.4: grep selected tmp/testsd.dat #incorrect speaker and digit
13817  #Trial#
13818  #Trial#
13819  #Trial#
```

```
13820  #Trial#
13821  #Trial#
13822  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4
:1000:0:0.5: grep selected tmp/testsd.dat #incorrect speaker and digit
13823  #Trial#
13824  #Trial#
13825  #Trial# void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4
:1000:0:0.6: grep selected tmp/testsd.dat #incorrect speaker and digit
13826  #Trial#
13827  #Trial#
13828  #Trial#
13829  #Trial#
13830  #Trial#
13831  #Trial#
13832  #Trial#2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_lytml_0.9.dat" using 1:2 w l, "" using
1:2:3 w errorbars
13833  #Trial#
13834  #Trial#2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_lytml_0.9.dat" using 1:2 w l, "" using
1:2:3 w errorbars
13835  #Trial#
13836  #Trial#1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_0.3ytml_0.9.dat" using 1:2 w l, "" u
sing 1:2:3 w errorbars, "testsd_stat_d_riC0_0.2ytml_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "tes
tsd_stat_d_riC0_0.1ytml_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_0ytml_0.9.da
t" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_d_riC0_lytml_0.9.dat" using 1:2 w l, "" using 1:2
:3 w errorbars
13837  #Trial#
13838  #Trial#
13839  #Trial#.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test
:4:1000:0:0.5: grep selected tmp/testsd.dat #incorrect speaker and incorrect digit
13840  #Trial#
13841  #Trial#
13842  #Trial#.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test
:4:1000:1:0.5: grep selected tmp/testsd.dat #incorrect speaker and incorrect digit
13843  #Trial#
13844  #Trial#
13845  #Trial#
13846  #Trial#
13847  #Trial#
13848  #Trial#
13849  #Trial#g 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_sd_riC0_0ytml_0.9.dat" using 1:2 w l, ""
using 1:2:3 w errorbars, "testsd_stat_sd_riC0_lytml_0.9.dat" using 1:2 w l, "" using 1:2:3 w errorbars
13850  #Trial#
13851  #Trial#g 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_sd_riC0_lytml_0.9.dat" using 1:2 w l, ""
using 1:2:3 w errorbars
13852  #Trial#1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_sd_riC0_lytml_0.9.dat" using 1:2 w l, "" us
ing 1:2:3 w errorbars
13853
13854  #OLD#2013/02/07
13855
13856  #OLD#(1) speakerdigit_v.cのしきい値_ythの選択のymeanP[m]とymeanN[m]をいくつかの手法で求めた。
13857  #OLD#オプション  ytm:<method>:<ytma>
13858  #OLD#     <method>=0 従来のようにyの正例の平均ymeanP[m]と負例の平均ymeanN[m]の内点
13859  #OLD#           <ytma>=0: ymeanN[m]からymeanP[m]まで を100等分し、その内、FNとFPの分散が小さくなる yth
なるyth
13860  #OLD#     <method>=1 <ytma>>0: -ytmaからytmaまでを100等分し、その内、FNとFPの分散が小さくなる yth
346(k2) OK?
13861  #OLD#     <method>=1 <ytma>>0: ymeanN[m]から ymeanP[m]の平均ymeanN[m]の内点
2)  <--ytm:1:0:100より良い
13862  #OLD# (2)使用例
13863  #OLD#ytm:1:0.9:1000 の方が良いように見える？
13864
13865  #OLD#speakerdigit_v fs:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:
.55:0.25:4 ytm:1:0.9:1000 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7
:8:9 ver:-2 test:4:1000:0:0 ; grep selected tmp/testsd.dat #correct speaker and digit
13866  #OLD#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_s_riC0_0ytml_0.dat
13867  #OLD#cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_s_riC0_lytml_0.95.dat
13868  #OLD#
13869  #OLD#ytm:1:0.9:1000 #selected n84 <FP>0.1402+-0.0246995 <FN>0.11+-0.0693084 TotalUncertainty0.0520275(
k2)  従米手法    <--uncertainty は下のytm:1:0:1000より悪い
13870  #OLD#10 0.85185 0.293764 #t <p> uncertainty_p(k2) <-- Accept! <--test:4:1000:0:0
13871  #OLD#ytm:1:0:1000 0.134748 #t <p> uncertainty_p(k2) <-- Reject!<--test:4:1000:1:0
13872  #OLD#
13873  #OLD#ytm:1:0:1000 #selected n813 <FP>0.136015+-0.0197726 <FN>0.11+-0.0691185 TotalUncertainty0.0508
0508
13874  #OLD10 0.85417 0.291632 #t <p> uncertainty_p(k2) <-- Accept!    <--test:4:1000:0:0
13875  #OLD10 0.935893 0.129523 #t <p> uncertainty_p(k2) <-- Reject!  <--test:4:1000:1:0
13876  #OLD#ytm:1:0:200 #selected n164 <FP>0.1371+-0.0213569 <FN>0.11+-0.06934 TotalUncertainty0.0513038(k
2)  <--ytm:1:0:1000より良い
13877  #OLD10 0.853244 0.2919 #t <p> uncertainty_p(k2) <-- Accept!     <--test:4:1000:0:0
13878  #OLD10 0.946697 0.133266 #t <p> uncertainty_p(k2) <-- Reject!    <--test:4:1000:1:0
13879  #OLD#
13880  #OLD#
13881  #OLD#ytm:1:0:500 selected n407 <FP>0.13617+-0.0199653 <FN>0.11+-0.0691185 TotalUncertainty0.0508723
(k2)  <--ytm:1:0:1000とどっこいどっこい
13882  #OLD10 0.854434 0.29179 #t <p> uncertainty_p(k2) <-- Accept!      <--ytm:1:0:100
```

```
14132  cat ../l2voicedata/allpole/oob4sd:4:7N50mbas2:300:0.7:1.y >> ../l2voicedata/allpole/oob4sd.y
14133
14134  (4-6-8) 話者数字列照合：不正解話者＋正解数字列
14135  speakerdigit_v fsd:../l2voicedata/allpole/oob4sd.y nSDL:7:10:10 pmin:0.01 pART:.55:0:25:4 ytm:1 PNr:
0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:1:0 #i
ncorrect speaker and digit
14136  10 0.873486 0.177889 #t <p> uncertainty_p(k2)
14137  (4-6-9) 話者数字列照合：不正解話者＋正解数字列
14138  speakerdigit_v fsd:../l2voicedata/allpole/oob4sd.y nSDL:7:10:10 pmin:0.01 pART:.55:0:25:4 ytm:1 PNr:
0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:1:0 #i
ncorrect speaker and digit
14139  10 0.208707 0.239441 #t <p> uncertainty_p(k2)
14140  ## さらに よくなった：(4-6-4)や(4-6-5)より uncertaintyが小さくなった。
14141  ################################
14142  ################################
14143  2013/02/05 夕方
14144  (1) サンプルを生成しテストするプログラムを作成した。
14145  ・オプション  test:<id>:<n>:<riC>
14146                <id>=0:これまでと同じく、指定話者数字列 sdP:<sP>:<dP1>:<dP2>>... に対し、テスト話者数字列をランダムに生成し、テスト話者数字列の誤り率で
T:<sT>:<dT1>:...のテスト。
14147  生成し、テスト。
14148              <id>=1のとき：speaker が riC の割合で正しくない。riC=0のとき正しい。
14149              <id>=2のとき：digit が riC の割合で正しくない。riC=0のとき正しい。
14150              <id>=3のとき：speaker と digit、それぞれが、riC の割合で正しくない。riC=0のとき正しい。
14151  ・結果は tmp/testsd.dat と tmp/testsd_stat.dat に書き出す
14152  ・tmp/testsd_stat.datの第3要素はガバレッジファクタ メ k=2(約95%カバー)の拡張不確かさ（計測工学参照）
14153  #try from here
14154  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0 #correct
14155  cp tmp/testsd_stat.dat ../l2voicedata/allpole/ testsd_stat_sd0ytm1.dat
14156  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0.8 #incorrect
14158  cp tmp/testsd_stat.dat ../l2voicedata/allpole/ testsd_stat_sd0.8ytm1.dat
14159  cd ../l2voicedata/allpole
14160  gnuplot
14161  plot "testsd_stat_sd0ytm1.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_sd0.8ytm1.dat
" using 1:2 w l, "" using 1:2:3 w errorbars
14162  #try to here
14163
14164  ###wytm:00の方がいいかも？そうっでもないかな？
14165  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0 #correct
14166  cp tmp/testsd_stat.dat ../l2voicedata/allpole/ testsd_stat_sd0ytm0.dat
14167
14168  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:0 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0.8 #incorrect
14170  cd ../l2voicedata/allpole
14171  gnuplot
14172  plot "testsd_stat_sd0ytm0.dat" using 1:2 w l, "testsd_stat_sd0ytm0.dat" using 1:2:3 w errorbars
stsd_stat_sd0.8ytm0.dat" using 1:2 w l, "testsd_stat_sd0.8ytm0.dat" using 1:2:3 w errorbars
14174  ###
14175  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55:0
.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:1000:0 #correct
14176  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0 #correct
14178  speakerdigit_v fd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55:0
.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:1000:0 #correct
14179  speakerdigit_v fd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 ver:-2 te
st:1000:0.8 #incorrect
14180  ##
14181  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:3:1000:0 #correct
14182  cp tmp/testsd_stat.dat ../l2voicedata/allpole/ testsd_stat_sd0.dat
14183
14184
14185  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:1:1000:1.0 #speaker incorrect
```

```
9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:0:0 #cor
rect speaker and digit
14073  #10 0.886566 0.271762 #t <p> uncertainty_p(k2)
14074  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_s_riC0_0ytml_new.dat
14075  cp ../l2voicedata/allpole/oob4s.y nSDL:7:10:10 pmin:0.01 pART:.55:0.25:4 ytm:1 PNr:0.
9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:1:0 #cor
rect speaker and digit
14076  speakerdigit_v fs:../l2voicedata/allpole/oob4s.y nSDL:7:10:10 pmin:0.01 pART:.55:0.25:4 ytm:1 PNr:0.
14077  #10 0.0776555 0.119994 #t <p> uncertainty_p(k2)
14078  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_s_riC1_0ytml_new.dat
14079
14080  (4-5) gnuplot で確認
14081  cd ../l2voicedata/allpole/
14082  gnuplot
14083  plot "testsd_stat_s_riC0_0ytml_new.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_s_ri
C1_0ytml_new.dat" using 1:2 w l, "" using 1:2:3 w errorbars
14084  plot "testsd_stat_s_riC1_0ytml_new.dat" using 1:2 w l, "" using 1:2:3 w errorbars, "testsd_stat_s_riC1_0
ytml.dat" using 1:2 w l, "" using 1:2:3 w errorbars
14086  #newの方が良いように見える。差は僅か？
14087  (4-6) 話者数字列でも良いバラメメを探索（結果的に=300が良かった）
14088  (4-6-1) sm5 txm4が悪い？
14089  oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole sd:5:4 N:50
14090  0.40000  0.99710 0.00290  0.60000 8.6128 4e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N30
14091  0.50000  0.99420 0.00580  0.50000 7.22567e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N40
14092  0.50000  0.99420 0.00290  0.60000 1.00414e-03 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N50
14093  0.40000  0.99855 0.00145  0.60000 8.59211e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N60
14094  0.40000  0.99275 0.00725  0.60000 8.74995e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N80
14095  0.40000  0.99710 0.00290  0.60000 8.6128 4e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N100
14096  0.30000  0.99710 0.00290  0.70000 1.00414e-03 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N150
14097
14098  0.50000  0.98841 0.01159  0.50000 7.30849e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N50 mbas:
2:50:0.7:1
14099  0.70000  0.97681 0.02319  0.30000 4.61698e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N50 mbas:
2:200:0.7:1
14100  0.90000  0.99710 0.00290  0.10000 1.46998e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N50 mbas:
2:300:0.7:1
14101  0.80000  0.99420 0.00580  0.20000 2.93996e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N50 mbas:
2:400:0.7:1
14103  0.50000  0.98841 0.01159  0.50000 7.30849e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N40 mbas:
2:200:0.7:1
14104  0.90000  0.99130 0.00870  0.10000 1.55280e-04 700 5 4 #TP,TN,FP,FN,ERR,n,sm5 txm4 for check.   N40 mbas:
2:300:0.7:1
14105
14106  (4-6-2) yファイルを結合
14107  cp ../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y >> ../l2voicedata/allpole/oob4sd.y
14108  cat ../l2voicedata/allpole/oob4sd:5:4N50mbas2:300:0.7:1.y >> ../l2voicedata/allpole/oob4sd.y
14109  (4-6-3) 話者数字列照合：正解話者＋正解数字列
14110  speakerdigit_v fsd:../l2voicedata/allpole/oob4sd.y nSDL:7:10:10 pmin:0.01 pART:.55:0.25:4 ytm:1 PNr:
0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:0:0 #c
orrect speaker and digit
14112  #10 0.869749 0.179965 #t <p> uncertainty_p(k2)
14113  (4-6-4) 話者数字列照合：不正解話者＋正解数字列
14114  speakerdigit_v fsd:../l2voicedata/allpole/oob4sd.y nSDL:7:10:10 pmin:0.01 pART:.55:0.25:4 ytm:1 PNr:
0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 test:4:1000:1:0 #i
ncorrect speaker and digit
14115  10 0.219039 0.242057 #t <p> uncertainty_p(k2)
14116  (4-6-5) 以前と比較（次）より uncertainty_pが値かに小さくなった？
14117  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:4:1000:0:0 #correct speaker and digit
14119  #10 0.870785 0.180705 #t <p> uncertainty_p(k2)
14120  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:4:1000:1:0 #incorrect speaker and digit
14121  10 0.22628 0.244544 #t <p> uncertainty_p(k2)
14122  (4-6-6) sm4 txm7でもN を探索
14123  oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole sd:4:7 N:50
14125  cat ../l2voicedata/allpole/oob4sd:4:7N50mbas2:300:0.7:1.ystat
14126  oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole sd:4:7 N:50
14127  0.70000  0.99130 0.00870  0.30000 4.40994e-04 700 4 7 #TP,TN,FP,FN,ERR,n,sm4 txm7
14128
14129  (4-6-7) yファイルを結合
14130  cp ../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y >> ../l2voicedata/allpole/oob4sd.y
14131  cat ../l2voicedata/allpole/oob4sd:5:4N50mbas2:300:0.7:1.y >> ../l2voicedata/allpole/oob4sd.y
```

```
14186  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_sl.dat
14187  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
test:2:1000:0.5 #digit incorrect
14188  cp tmp/testsd_stat.dat ../l2voicedata/allpole/testsd_stat_d0.5.dat
14189  cd ../l2voicedata/allpole
14190  gnuplot
14191  plot "testsd_stat_sd0.dat" using 1:2 w l, "testsd_stat_sd0.dat" using 1:2:3 w errorbars, "testsd_sta
t_sl.dat" using 1:2 w l, "testsd_stat_sl.dat" using 1:2:3 w errorbars
14192  2013/02/05
14193  plot "testsd_stat0.dat" using 1:2 w l, "testsd_stat0.dat" using 1:2:3 w errorbars, "testsd_stat0.8.d
at" using 1:2 w l, "testsd_stat0.8.dat" using 1:2:3 w errorbars
14194  (1) pFPとpFNの分散が最小のytmを用いる手法(ytm:1)、従来手法(PNrを用いる場合）は ytm:0
14195  .25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 #c
orrect
14196  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55:0
14197  .25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 #c
orrect
14198  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55:0
14199  .25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 #c
orrect
14200  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.55
:0.25:4 ytm:1 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2
#correct
14201  2013.01.30 午後
14202  (1) beta_tが間違っていたので修正→あまりうまく行かない。前より悪い？ver:-2とver:2だけうまくいく？
14203  .25:4 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 #correct
14204  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.75:0
14205  .25:4 PNr:0.9 void:0 gibbs:1 beta:1 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 ver:-2 #correct
14206  speakerdigit_v fsd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.75:0
14207  ###
14208  version オプション
14209  ver:-2  尤度に全ての学習機械を使う  p(v^[SxD]|s,d)=\prod_(s',d'} p(v^[s',d']|s,d)
14210  ver:2   尤度に全ての学習機械を使う  p(v^[SxD]|s,d)=\prod_(s',d')...でPP[_m][m][sdP->id=1]...でPP[_m][m][sdP->d[t_1]]を使うのが変
14211  ver:-1  尤度に照合すべき学習機械だけが持つ  p(v^[SxD]|s,d)=p(v^[s,d]|s,d)
14212  ver:1   尤度に照合すべき学習機械を使う  p(v^[SxD]|s,d)=p(v^[s,d]|s,d)
ct
14213  ver:-1  尤度に全ての学習機械を使う  だけど CiC+=TN[m]|とLiC+=FP[m]|の行が変
14214  ver:2   尤度にいってるみたいだけどif(method->id==1)...でPP[_m][m][sdP->d[t_1]]を使うのが変
14215  ver:1   尤度にいってるみたいだけど LiC+=FP[m]|とCiC+=TN[m]|の行が変
14216  2013.01.29
14217  (1) 話者数字照合プログラム speakerdigit_v.c (初版) が何とかできた。話者数字列の時はOK？不正確
14218  者不正数字列のときをあまり上手く行かない？
14219  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.95:0
14220  .25:4 PNr:0.9 void:0 gibbs:1 beta:0.2 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:0 sdT:0:0:1:2:3:4:5:6:7:8:9 #correct
14221  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.95:0
14222  .25:4 PNr:0.9 void:0 gibbs:1 beta:0.2 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 #correct
14223  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.95:0
14224  .25:4 PNr:0.9 void:0 gibbs:1 beta:0.2 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:1:0:1:2:3:4:5:6:7:8:9 #inccorrect se
quence
14225  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.95:0
14226  :0.25:4 PNr:0.9 void:0 gibbs:1 beta:0.2 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 #inccorrect
eaker
14227  speakerdigit_v fs:../l2voicedata/allpole/oob4sN50mbas2:100:0.7:1.y nSDL:7:10:10 pmin:0.01 pART:.95:0
14228  time oob4speaker sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:
10 k:36 dir:../l2voicedata/allpole/oob4sN50 mbas:2:100:0.7:1 dir:../l2voicedata/allpole d:8 N:100
14229  speakerdigit_v fd:../l2voicedata/allpole/oob4sdN50mbas2:100:0.7:1.y
14230  .25:4 PNr:0.9 void:0 gibbs:1 beta:0.2 sdP:0:0:1:2:3:4:5:6:7:8:9 lT:1 sdT:0:0:1:2:3:4:5:6:7:8:9 #TP,TN,FP,FN,ERR,n,sm0
NG for lT:1
14231  2013.01.24
14232  (1) CAN2Dの話者数字照合出力をバグ外推定で求める→安定で高い正解率？
14233  プログラム。
14234  oob4speakerdigit.c
14235  oob4speaker.c
14236  oob4digit.c
14237  (2)実行例!
14238  time oob4speaker sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:
10 k:36 dir:../l2voicedata/allpole/oob4sN50 mbas:2:100:0.7:1 dir:../l2voicedata/allpole d:8 N:100
14239  0.90000  0.97000  0.03000  0.10000  1.85711e-04  700 0  #TP,TN,FP,FN,ERR,n,sm0
14240  0.84000  0.97500  0.02500  0.16000  2.64286e-04  700 1  #TP,TN,FP,FN,ERR,n,sm1
14241  0.79000  0.96167  0.03833  0.21000  3.54762e-04  700 2  #TP,TN,FP,FN,ERR,n,sm2
```

```
14243  0.82000  0.94833  0.05167  0.18000  3.30952e-04  700 3  #TP,TN,FP,FN,ERR,n,sm3
14244  0.81000  0.98333  0.01667  0.19000  2.95238e-04  700 4  #TP,TN,FP,FN,ERR,n,sm4
14245  0.80000  0.96000  0.04000  0.20000  3.42857e-04  700 5  #TP,TN,FP,FN,ERR,n,sm5
14246  0.79000  0.96000  0.04000  0.21000  3.57143e-04  700 6  #TP,TN,FP,FN,ERR,n,sm6
14247  #../l2voicedata/allpole/oob4s:2N100mbas2:100:0.7:1.y
14248  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu nL:
10 k:36 mbas:2:100:0.7:1 dir:../l2voicedata/allpole s:2 N:100
14249  0.84000  0.96500  0.03500  0.16000  2.78571e-04  700 2  #TP,TN,FP,FN,ERR,n,sm2
14250  #../l2voicedata/allpole/oob4s:6N40mbas2:100:0.7:1.y
14251  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu nL:
10 k:36 mbas:2:100:0.7:1 dir:../l2voicedata/allpole s:6 N:40
14252  0.83000  0.95833  0.04167  0.17000  3.02381e-04  700 6  #TP,TN,FP,FN,ERR,n,sm6
14253  cp ../l2voicedata/allpole/oob4sN50mbas2:2N100mbas2:100:0.7:1.y >> ../l2voicedata/allpole/oob4s.y
14254  cat ../l2voicedata/allpole/oob4s:2N100mbas2:100:0.7:1.y >> ../l2voicedata/allpole/oob4s.y
14255  cat ../l2voicedata/allpole/oob4s:6N40mbas2:100:0.7:1.y >> ../l2voicedata/allpole/oob4s.y
14256  #oob4digit sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:3
6 N:50 mbas:2:100:0.7:1 dir:../l2voicedata/allpole
14257  #../l2voicedata/allpole
14258  0.85714  0.98413  0.01587  0.14286  2.26757e-04  700 0  #TP,TN,FP,FN,ERR,n,txm0
14259  0.81429  0.98889  0.01111  0.18571  2.81179e-04  700 1  #TP,TN,FP,FN,ERR,n,txm1
14260  0.82857  0.98413  0.01587  0.17143  2.67574e-04  700 2  #TP,TN,FP,FN,ERR,n,txm2
14261  0.87143  0.98413  0.01587  0.12857  2.06349e-04  700 3  #TP,TN,FP,FN,ERR,n,txm3 o?
14262  0.72857  0.97778  0.02222  0.27143  4.19501e-04  700 4  #TP,TN,FP,FN,ERR,n,txm4
14263  0.92857  0.99365  0.00635  0.07143  1.11111e-04  700 5  #TP,TN,FP,FN,ERR,n,txm5 o
14264  0.87143  0.96667  0.03333  0.12857  2.31293e-04  700 6  #TP,TN,FP,FN,ERR,n,txm6 o?
14265  0.85714  0.96984  0.03016  0.14286  2.47166e-04  700 7  #TP,TN,FP,FN,ERR,n,txm7 o?
14266  0.77143  0.97778  0.02222  0.22857  3.58277e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8
14267  0.98571  0.99683  0.00317  0.01429  2.49433e-05  700 9  #TP,TN,FP,FN,ERR,n,txm9 o
14268  cat ../l2voicedata/allpole/oob4d:-1N50mbas2:300:0.7:1.ystat
14269  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:-1 N:50
14270  0.87143  0.98889  0.01111  0.12857  1.99546e-04  700 0  #TP,TN,FP,FN,ERR,n,txm0
14271  0.94286  0.99206  0.00794  0.05714  9.29705e-05  700 1  #TP,TN,FP,FN,ERR,n,txm1 O
14272  0.92857  0.99048  0.00952  0.07143  1.15646e-04  700 2  #TP,TN,FP,FN,ERR,n,txm2 x
14273  0.82857  0.97937  0.02063  0.17143  2.74376e-04  700 3  #TP,TN,FP,FN,ERR,n,txm3 --
14274  0.85714  0.97619  0.02381  0.14286  2.38095e-04  700 4  #TP,TN,FP,FN,ERR,n,txm4 OO
14275  0.98571  1.00000  0.00000  0.01429  2.04082e-05  700 5  #TP,TN,FP,FN,ERR,n,txm5 O
14276  0.87143  0.96825  0.03175  0.12857  2.04082e-04  700 6  #TP,TN,FP,FN,ERR,n,txm6 --
14277  0.88571  0.96825  0.03175  0.11429  2.08617e-04  700 7  #TP,TN,FP,FN,ERR,n,txm7 --
14278  0.94286  0.98254  0.01746  0.05714  1.06576e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8
14279  0.98571  1.00000  0.00000  0.01429  1.63265e-04  700 9  #TP,TN,FP,FN,ERR,n,txm9
14280  cat ../l2voicedata/allpole/oob4d:-1N50mbas2:300:0.7:1.ystat
14281  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:-1 N:50
14282  0.94286  0.97778  0.02222  0.05714  1.13379e-04  700 0  #TP,TN,FP,FN,ERR,n,txm0 oO
14283  0.90000  0.97302  0.02698  0.10000  1.81406e-04  700 1  #TP,TN,FP,FN,ERR,n,txm1 O
14284  0.74286  0.98730  0.01270  0.25714  3.85488e-04  700 2  #TP,TN,FP,FN,ERR,n,txm2 x
14285  0.75714  0.97619  0.02381  0.24286  3.80952e-04  700 3  #TP,TN,FP,FN,ERR,n,txm3 x
14286  0.94286  0.96667  0.03333  0.05714  1.29252e-04  700 4  #TP,TN,FP,FN,ERR,n,txm4 oO
14287  0.91429  0.99524  0.00476  0.08571  1.29252e-04  700 5  #TP,TN,FP,FN,ERR,n,txm5 O
14288  0.80000  0.99365  0.00635  0.20000  2.94785e-04  700 6  #TP,TN,FP,FN,ERR,n,txm6x
14289  0.81429  0.97460  0.02540  0.18571  3.01587e-04  700 7  #TP,TN,FP,FN,ERR,n,txm7x
14290  0.80000  0.99048  0.00952  0.20000  2.99320e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8 x
14291  0.95714  0.99365  0.00635  0.04286  7.02948e-05  700 9  #TP,TN,FP,FN,ERR,n,txm9 --
14292  cat ../l2voicedata/allpole/oob4d:8N50mbas2:300:0.7:1.ystat
14293  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:1.0:1 dir:../l2voicedata/allpole d:8 N:50
14294  0.94286  0.98254  0.01746  0.05714  1.06576e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8o
14295  cat ../l2voicedata/allpole/oob4d:2N50mbas2:300:1.0:1.ystat
14296  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:1.0:1 dir:../l2voicedata/allpole d:2 N:50
14297  0.92857  0.99048  0.00952  0.07143  1.15646e-04  700 2  #TP,TN,FP,FN,ERR,n,txm2 o
14298  cat ../l2voicedata/allpole/oob4d:8N30mbas2:300:0.7:1.ystat
14299  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:8 N:30
14300  0.84286  0.98889  0.01111  0.15714  2.40363e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8 x
14301  cat ../l2voicedata/allpole/oob4d:2N100mbas2:300:0.7:1.ystat
14302  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:2 N:100
14303  0.84286  0.99524  0.00476  0.15714  2.31293e-04  700 2  #TP,TN,FP,FN,ERR,n,txm2 o?
14304  cat ../l2voicedata/allpole/oob4d:3N100mbas2:300:0.7:1.ystat
14305  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:3 N:100
14306  0.80000  0.97778  0.02222  0.20000  3.17460e-04  700 3  #TP,TN,FP,FN,ERR,n,txm3 x
14307  cat ../l2voicedata/allpole/oob4d:8N100mbas2:300:0.7:1.ystat
14308  #oob4speakerdigit+ sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntx
i:10 k:36 mbas:2:300:0.7:1 dir:../l2voicedata/allpole d:8 N:100
14309  0.72857  0.98730  0.01270  0.27143  4.05896e-04  700 8  #TP,TN,FP,FN,ERR,n,txm8x
14310  #oob4digit sp:fhs:fms:mkk:mko:mmt:mmh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10 k:3
6 N:50 mbas:2:100:0.7:1 dir:../l2voicedata/allpole #time-consuming
14311
```

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```
14394  0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6  9  #TP,FP,TN,FP,FN,ERR,n,sm6 txm9
14395
14396
14397
14398  2013.01.20
14399  (1) 特徴ベクトルファイルを leave-one-outでCAN2により学習予測するプログラム
14400  loo4speaker.c   話者CAN2=不特定数字（テキスト独立）特定話者CAN2 <leave-one-out>
14401                    ( similar but not equal to
14402                    数字CAN2=不特定話者かつ特定数字
14403  loo4digit.c      数字CAN2=不特定話者かつ特定数字（テキスト独立）特定話者CAN2<leave-oneset-out>)
14404  loo4speakerdigit.c 話者数字CAN2=特定数字（テキスト従属）特定話者CAN2
14405                    ( similar but not equal to
14406                    loo4multistep-sr-td-mine.c ：特定数字での話者CAN2<leave-oneset-out>)
14407
14408  (2)  使用例
14409  D=数字集合={zero,ichi,ni,san,yon,go,roku,nana,hachi,kyu}
14410  S=話者集合={fhs:fms:mkk:mko:mmt:mnh:mym}
14411  L=引数集合={1,2,\cdots,|L|=10?} とする。
14412
14413  (3)  コマンド：
14414  echo -n "date: ":date:
14415  time oobspeaker sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:1
0 k:36 N:20 dir:../12voicedata/allpole  mbas:2:20:0.7:1
14416  time loo4speaker sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:
10 N:20 dir:../12voicedata/allpole
14417  time loo4digit sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi:10
k:36 N:20 dir:../12voicedata/allpole
14418  time loo4speakerdigit sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu
ntxi:10 N:20 dir:../12voicedata/allpole
14419  echo -n "date: ":date:
14420  cat ../12voicedata/allpole/loo4sN60.ystat
14421  #test# time loo4speaker sp:fhs tx:zero ntxi:1 k:36 N:20 dir:../12voicedata/allpole #for test
14422  ###########
14423  real193m54.088suser17m41.682ssys5m55.038s
14424
14425  (4) 出力ファイル（詳しくはプログラムを見よ）
14426  ../12voicedata/allpoleの下に
14427  loo4sN20.ystat: 第m行に CAN2^{s_m} (s_m\in S) の出力，各行は特徴x_{s,d,i} (s\in S, d\in D, i\in L)に対する
出力列
14428  loo4sN20.y: 第m行に CAN2^{s_m} (s_m\in S) に対するTP,TN,FP,n,ERR,S,sm
14429  loo4dN20.ystat: 第m行に CAN2^{d_m} (d_m\in S) の出力，各行は特徴x_{s,d,i} (s\in S, d\in D, i\in L)に対する
出力列
14430  loo4dN20.y: 第m行に CAN2^{d_m} (d_m\in D) に対するTP,TN,FP,n,ERR,S,sm
14431  loo4sdN20.y: 各m(ms*|D|+md)行に CAN2^{s_{ms}},d_{md}} (s_{ms}\in S, d_{md}\in D) の出力，
14432                    各行は特徴x_{s,d,i} (s\in S, d\in D, i\in L)に対する出力列
14433
14434  #############################
14435  110616 2011.06.16
14436
14437  %話者：msm,mss,mtn,mwk,mym
14438  %テキスト：0daigaku,1fukuokaken,2gakusei,3kikai,4kyuukoudai
14439  %テキスト：4kyuukoudai,0daigaku,3kikai,1fukuokaken,2gakusei,
14440  #############################
14441  2013.01.17
14442  see readme.mineishi (from original readme-mineishi.dat)
14443  loo4multistep-sr-ti-mine sp:msm:mss:mtn:mwk:mym tx:daigaku:fukuokaken:gakusei:kikai:kyuukoudai ntxi:
10 Ev1:0.108 Ev2:0.184 Ev3:0.180 Ev4:0.132 Ev5:0.112 k:36 N:20 dir:../-voicedata/allpole rsa:2:0.7:1:20
14444  loo4multistep-sr-td sp:fna:mkh:mki:mmo:mrn tx:daigaku1:daigaku2:daigaku3:daigaku4:daigaku5:daigaku6:
daigaku7:daigaku8:daigaku9:daigaku10 k:36 N:20 dir:../-voicedata/allpole rsa:2:0.7:1:20
14445  2012.06.16 ############# Version2 OK for ICONIP2012 with PIrth and usevoid:1
14446  2012.06.16 ############# Version2 OK for details
14447  Table 2.
14448  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:3
:1:2 tdisp:4 fmt:8.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:-1
14449  #Original Verification    FP Rate:0.005(1/200)0.000(0/200)0.015(3/200)0.000(0/200)
14450  #Original Verification    FN Rate:0.200(10/50)0.180(9/50)0.340(17/50)0.240(12/50)0.300(15/50)
14451  #Original Identification Error Rate:0.080(4/50)0.060(3/50)0.100(5/50)0.060(3/50)0.040(2/50)
14452  #vlmex-1 response time steps=5.04=(4.40+4.00+7.60+5.20+4.00+)/5, (fp+FP)/All=(0+0)/5, Err:none#maxPI
r2.55e-06<PIrth<minPIvl.00e+20
14453  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.71 ith:4 ts:4
:0:1:12 tdisp:4 fmt:%.3f:1 PNr:.9 void:1 :41 gibbs:1 mex:-1
14454  #vlmex-1 response time steps=5.16=(4.40+4.00+7.80+5.60+4.00+)/5, (fp+FP)/All=(0+0)/5, Err:none #maxP
Ir2.76e-01<PIrth<minPIvl.00e+20
14455
14456  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:3
:1:2 tdisp:4 fmt:8.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:0
14457  #vlmex0 response time steps=5.48=(4.40+4.00+7.40+6.60+5.00+)/5, (fp+FP)/All=(0+0)/5, Err:none #maxPI
r2.45e-06<PIrth<minPIvl.49e-01
14458  #vlmex1 response time steps=5.64=(4.60+4.00+8.40+6.20+5.00+)/5, (fp+FP)/All=(0+0)/5, Err:none#maxPI
r2.26e-07<PIrth<minPIvl.21e-02
14459  #vlmex2 response time steps=5.52=(5.00+4.00+7.60+6.40+4.60+)/5, (fp+FP)/All=(0+0)/5, Err:none#maxPI
r2.45e-06<PIrth<minPIvl.56e-02
```

Page 227 content (columns: line#, then TP/TN/FP/FN/ERR values and #TP,TN,FP,FN,ERR,n,txm/sm labels):

```
14313  0.92857 0.98889 0.01111 0.07143 1.17914e-04 700 0  #TP,TN,FP,FN,ERR,n,txm0
14314  0.91429 0.97778 0.02222 0.08571 1.54195e-04 700 1  #TP,TN,FP,FN,ERR,n,txm1
14315  0.87143 0.97302 0.02698 0.12857 2.22222e-04 700 2  #TP,TN,FP,FN,ERR,n,txm2
14316  0.77143 0.97302 0.02698 0.22857 3.65079e-04 700 3  #TP,TN,FP,FN,ERR,n,txm3
14317  0.85714 0.97778 0.02222 0.14286 2.35828e-04 700 4  #TP,TN,FP,FN,ERR,n,txm4
14318  0.88571 0.99841 0.00159 0.11429 1.65533e-04 700 5  #TP,TN,FP,FN,ERR,n,txm5
14319  0.78571 0.98254 0.01746 0.21429 3.31066e-04 700 6  #TP,TN,FP,FN,ERR,n,txm6
14320  0.78571 0.96190 0.03810 0.21429 3.60544e-04 700 7  #TP,TN,FP,FN,ERR,n,txm7
14321  0.77143 0.96984 0.03016 0.22857 3.69615e-04 700 8  #TP,TN,FP,FN,ERR,n,txm8
14322  0.97143 0.99683 0.00317 0.02857 4.53515e-05 700 9  #TP,TN,FP,FN,ERR,n,txm9
14323  4330.53user 323.78system 1:32:5Ielapsed 83%CPU (0avgtext+0avgdata 60816maxresident)k
14324  #oob4speakerdigit sp:fhs:fms:mkk:mko:mmt:mnh:mym tx:zero:ichi:ni:san:yon:go:roku:nana:hachi:kyu ntxi
:1:0 k:36 N:50 mbas:2:1:00:0.7:1 dir:../12voicedata/allpole
14325  0.80000 0.99855 0.00145 0.20000 2.87785e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm0
14326  0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm1
14327  0.60000 1.00000 0.00000 0.40000 5.71429e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm2
14328  0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm3
14329  0.80000 0.99855 0.00145 0.20000 2.85714e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm4
14330  1.00000 1.00000 0.00000 0.00000 0.00000e+00 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm5
14331  0.90000 0.99420 0.00580 0.10000 1.51139e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm6
14332  0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm7
14333  0.90000 0.99565 0.00435 0.10000 8.28157e-06 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm8
14334  0.90000 0.99710 0.00290 0.10000 1.49068e-04 700 0  #TP,TN,FP,FN,ERR,n,sm0 txm9
14335  0.70000 0.99710 0.00290 0.30000 1.46998e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm0
14336  0.80000 0.98986 0.01014 0.20000 4.28571e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm1
14337  0.80000 0.99855 0.00145 0.20000 3.00207e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm2
14338  0.80000 0.99855 0.00145 0.20000 2.85714e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm3
14339  0.80000 0.99420 0.00580 0.20000 3.06422e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm4
14340  0.80000 0.99565 0.00435 0.20000 2.93996e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm5
14341  0.70000 0.99565 0.00435 0.30000 3.34783e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm6
14342  0.90000 0.99855 0.00145 0.10000 1.53200e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm7
14343  0.50000 0.99855 0.00145 0.50000 7.16356e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm8  #NG?  TP,ERR
14344  0.90000 1.00000 0.00000 0.10000 1.42857e-04 700 1  #TP,TN,FP,FN,ERR,n,sm1 txm9
14345  ##################
14346  0.70000 0.99275 0.00725 0.30000 4.38923e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm0
14347  0.60000 0.99855 0.00145 0.40000 5.77640e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm1
14348  0.60000 0.99565 0.00435 0.40000 5.73499e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm2
14349  0.60000 0.99565 0.00435 0.40000 5.77640e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm3
14350  1.00000 0.99855 0.00145 0.00000 1.03520e-05 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm4
14351  0.80000 1.00000 0.00000 0.20000 2.87788e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm5
14352  1.00000 0.98841 0.01159 0.00000 1.66531e-05 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm6
14353  0.50000 0.99710 0.00290 0.50000 7.18427e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm7  #NG
14354  0.80000 1.00000 0.00000 0.20000 1.42857e-04 700 2  #TP,TN,FP,FN,ERR,n,sm2 txm8
14355  0.60000 0.99710 0.00290 0.40000 5.79710e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm0
14356  0.90000 0.99855 0.00145 0.10000 1.42857e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm1
14357  0.90000 0.99565 0.00435 0.10000 2.98137e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm2
14358  0.80000 0.99130 0.00870 0.20000 5.87992e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm3
14359  0.60000 0.99841 0.00159 0.40000 5.89855e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm4
14360  0.80000 0.99710 0.00290 0.20000 2.85714e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm5
14361  0.70000 0.99420 0.00580 0.30000 1.51139e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm6
14362  0.70000 0.99275 0.00725 0.30000 4.38923e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm7
14363  0.80000 0.99855 0.00145 0.20000 2.85714e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm8  #NG
14364  0.60000 0.99710 0.00290 0.40000 2.89855e-04 700 3  #TP,TN,FP,FN,ERR,n,sm3 txm9
14365  0.70000 0.99710 0.00290 0.30000 1.46998e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm0
14366  0.70000 0.98841 0.01159 0.30000 4.51435e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm1  #NG
14367  0.70000 0.99710 0.00290 0.30000 1.46998e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm2
14368  0.70000 0.99855 0.00145 0.30000 4.36853e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm3
14369  0.40000 0.99420 0.00580 0.60000 8.59213e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm4  #NG
14370  0.80000 0.99855 0.00145 0.20000 6.21456e-06 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm5
14371  0.70000 0.99710 0.00290 0.30000 1.42857e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm6
14372  0.30000 0.99855 0.00145 0.70000 1.00414e-03 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm7  #NG
14373  0.80000 1.00000 0.00000 0.20000 2.87788e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm8
14374  0.90000 0.99855 0.00145 0.10000 1.46998e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm9
14375  0.50000 0.99855 0.00145 0.50000 7.16356e-04 700 4  #TP,TN,FP,FN,ERR,n,sm4 txm0  #NG
14376  0.70000 0.99420 0.00580 0.30000 3.68513e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm1
14377  0.70000 0.99710 0.00290 0.30000 1.53209e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm2
14378  0.60000 0.99855 0.00145 0.40000 5.79710e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm3
14379  0.30000 0.99710 0.00290 0.70000 1.00414e-03 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm4  #NG
14380  0.80000 0.99710 0.00290 0.20000 1.42857e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm5
14381  0.90000 0.99565 0.00435 0.10000 1.49068e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm6
14382  0.90000 0.99855 0.00145 0.10000 1.49068e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm7
14383  0.60000 0.99710 0.00290 0.40000 5.75569e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm8
14384  0.60000 0.98986 0.01014 0.40000 1.57350e-04 700 5  #TP,TN,FP,FN,ERR,n,sm5 txm9
14385  0.90000 0.98261 0.01739 0.10000 1.67702e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm0
14386  0.40000 0.99855 0.00145 0.60000 8.59213e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm1  #NG
14387  0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm2
14388  0.90000 0.99855 0.00145 0.10000 1.44928e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm3
14389  0.80000 0.99710 0.00290 0.20000 2.85714e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm4
14390  0.70000 1.00000 0.00000 0.30000 4.28571e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm5
14391  0.90000 0.99565 0.00435 0.10000 1.49068e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm6
14392  0.70000 0.99710 0.00290 0.30000 4.28571e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm7
14393  0.90000 0.99710 0.00290 0.10000 1.46998e-04 700 6  #TP,TN,FP,FN,ERR,n,sm6 txm8
```

```
14460  #vlmex3 response time steps=5.12=(4.60+4.00+7.80+4.60+4.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r2.45e-06<PIrth<minPIv6.76e-02
14461  #vlmex4 response time steps=4.28=(4.40+4.00+4.00+5.00+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r7.27e-09<PIrth<minPIv1.25e-01
14462  echo "print (5.48+5.64+5.52+5.12+4.28)/5"|gnuplot #5.208
14463
14464  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.71 ith:4 ts:4
:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:41 gibbs:1 mex:0
14465  #vlmex0 response time steps=5.92=(5.40+4.00+8.20+6.80+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPIr
2.75e-01<PIrth<minPIv8.26e-01
14466  #vlmex1 response time steps=5.92=(5.60+4.00+8.00+6.80+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPIr
2.16e-01<PIrth<minPIv6.43e-01
14467  #vlmex2 response time steps=6=(5.60+4.80+6.40+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPIr
2.75e-01<PIrth<minPIv6.59e-01
14468  #vlmex3 response time steps=5.72=(5.60+4.00+8.20+5.60+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPIr
2.75e-01<PIrth<minPIv7.64e-01
14469  #vlmex4 response time steps=5.4=(5.20+5.20+6.20+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPIr1
.54e-01<PIrth<minPIv8.12e-01 ##<pth:.71
14470  echo "print (5.92+5.92+6+5.72+5.4)/5"|gnuplot #5.792
14471
14472  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:
3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:1
14473  #Original Verification    FP Rate:0.010(2/200)0.010(2/200)0.020(4/200)0.060(12/200)0.050(10/200)
14474  #Original Verification    FN Rate:0.360(18/50)0.300(15/50)0.400(20/50)0.340(17/50)0.320(16/50)
14475  #Original Identification Error Rate:0.200(10/50)0.200(10/50)0.280(14/50)0.400(20/50)0.420(21/50)
14476  echo "print (6.84+7.4+7.12+7+5.8)/5"|gnuplot #6.832
14477  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.9997 ith:4 ts:4:0
:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:0
14478  #vlmex0 response time steps=6.84=(7.00+5.80+8.60+6.40+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.85e-01<PIrth<minPIv1.00e+20
14479  #vlmex1 response time steps=6.84=(7.00+5.80+8.60+6.40+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir5.01e-01<PIrth<minPIv6.73e-03
14480  #vlmex4 response time steps=7.4=(7.20+6.60+8.00+7.60+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.73e-05<PIrth<minPIv6.19e-02
14481  #vlmex2 response time steps=7.12=(6.60+6.40+10.00+5.80+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.43e-06<PIrth<minPIv4.10e-04
14482  #vlmex3 response time steps=7=(6.60+6.60+6.40+6.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none    #maxP
Ir3.37e-05<PIrth<minPIv1.14e-03
14483  #vlmex4 response time steps=5.8=(5.40+4.20+6.00+6.60+6.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.37e-05<PIrth<minPIv1.11e-03
14484  echo "print (6.84+7.4+7.12+7+5.8)/5"|gnuplot #6.832
14485
14486  #lloo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.9999 ith:4 ts:4
:0:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:1
14487  ###vlmex-1 response time steps=6=(7.20+6.00+8.00+7.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #ma
xPIr3.85e-05<PIrth<minPIv1.00e+20
14488  #NGloo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4
:0:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:-1
14489  #NG Because #vlmex1 response time steps=5.72=(6.00+6.00+8.00+6.80+6.60+)/5,  (fp+FP)/All=(1+0)/25 Err
:IDm2slt4 #maxPIr3.73e-05<PIrth<minPIv4.19e-02
14490  #NG#vlmex-1 response time steps=6=(5.20+5.40+7.80+6.20+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.85e-05<PIrth<minPIv1.00e+20
14491  #NG#vlmex1 response time steps=6=(6.40+5.80+7.80+5.80+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:-1
14492  #vlmex0 response time steps=7.48=(7.80+6.20+8.60+8.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r5.01e-05<PIrth<minPIv6.73e-03
14493  #vlmex1 response time steps=7.88=(7.80+7.40+8.20+8.20+7.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.73e-05<PIrth<minPIv4.19e-02
14494  #vlmex2 response time steps=7.48=(7.00+7.00+10.00+7.00+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPI
r3.43e-06<PIrth<minPIv4.10e-04
14495  #vlmex3 response time steps=7.32=(7.20+7.20+8.80+6.40+7.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.37e-05<PIrth<minPIv1.14e-03
14496  #vlmex4 response time steps=6.32=(5.80+5.20+6.20+7.60+6.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.37e-05<PIrth<minPIv1.11e-03
14497  echo "print (7.48+7.88+7.48+7.32+6.32)/5"|gnuplot #7.296
14498  echo "print (5.01e-5+4.1e-4)/2"|gnuplot #0.00023005
14499
14500  #lloo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.9999 ith:4 ts:4
:0:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:-1
14501  #NGloo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4
:0:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:-1
14502  #vlmex0 response time steps=7.48=(7.80+6.20+8.60+8.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #max
PIr5.01e-05<PIrth<minPIv6.73e-03
```

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14509  #NG#vlmex3 response time steps=6.32=(5.60+5.80+8.00+5.80+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.37e-05<PIrth<minPIv1.14e-03
14510  #NG#vlmex4 response time steps=5.32=(5.20+4.00+5.40+6.40+5.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.37e-05<PIrth<minPIv1.11e-03
14511  #NGecho "print (6.2+6.72+6.6+6.32+5.32)/5"|gnuplot #6.232
14512
14513  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.61 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:41 gibbs:1 mex:0
14514  #vlmex-1 response time steps=5.64=(5.00+4.60+7.20+6.00+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPI
r3.62e-01<PIrth<minPIv1.00e+20
14515  #vlmex0 response time steps=6.4=(6.20+4.80+8.80+6.40+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.72e-01<PIrth<minPIv6.06e-01
14516  #vlmex1 response time steps=6.84=(6.40+5.80+8.20+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.61e-01<PIrth<minPIv7.28e-01
14517  #vlmex2 response time steps=6.24=(6.20+5.80+8.20+6.00+5.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r2.84e-01<PIrth<minPIv4.58e-01
14518  #vlmex3 response time steps=5.8=(5.40+5.80+7.20+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.57e-01<PIrth<minPIv5.08e-01
14519  #vlmex4 response time steps=5.28=(5.60+4.00+4.60+6.80+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
r3.57e-01<PIrth<minPIv5.06e-01
14520  echo "print (6.4+6.84+6.24+5.8+5.28)/5"|gnuplot #6.112
14521
14522  #loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.71 ith:4 ts
:4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:41 gibbs:1 mex:0
14523  ##vlmex0 response time steps=7.72=(7.40+6.00+8.80+8.70+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.72e-01<PIrth<minPIv6.06e-01
14524  ##vlmex1 response time steps=7.4=(7.80+6.20+8.80+7.60+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.61e-01<PIrth<minPIv7.28e-01
14525  ##vlmex2 response time steps=7.28=(7.40+6.20+9.00+6.40+7.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir2.84e-01<PIrth<minPIv4.58e-01
14526  ##vlmex3 response time steps=6.8=(6.60+6.20+8.80+5.60+6.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.57e-01<PIrth<minPIv5.08e-01
14527  ##vlmex4 response time steps=6.56=(5.60+5.20+6.20+7.60+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir3.57e-01<PIrth<minPIv5.06e-01
14528  #echo "print (7.72+7.4+7.28+6.8+6.56)/5"|gnuplot #7.152
14529  #################
14530  #Table 3.
14531  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.61 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:41 gibbs:1 mex:1
14532  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:20 pmin:0.0 pth:.9999 ith:4 ts:4:0
:3:1:2 tdisp:4 fmt:%.6f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:1
14533  #loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 pth:.9999 ith:4 ts:4:
0:3:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:1e-4 gibbs:0 mex:1
14534
14535  use tdisp:4 m2slt4 because the result of pth:.99(gibbs:0) and pth:.60(gibbs:1)
14536  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.99 ith:4 ts:4:0:3
:1:2 tdisp:4 fmt:%.8f:1 PNr:.9 void:1:17 gibbs:1 mex:1
14537  #vlmex1 response time steps=5.4=(5.00+4.60+6.60+5.80+5.00+)/5,  (fp+FP)/All=(0+0)/25 Err:IDm2slt4 #ma
xPIr3.73e-05<PIrth<minPIv4.19e-02
14538  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:1 pth:.60 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:41 gibbs:1 mex:1
14539  #vlmex1 response time steps=6.68=(6.40+5.80+7.80+7.60+5.80+)/5,  (fp+FP)/All=(1+0)/25 Err:IDm2slt4 #m
axPIr3.61e-01<PIrth<minPIv7.28e-01
14540
14541  print 0.41**(2),"=0.1681"
14542  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:2 pth:.85 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:17 gibbs:1 mex:1
14543  #vlmex-1 response time steps=5.36=(4.80+4.80+7.00+6.00+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none#maxPI
r1.31e-01<PIrth<minPIv1.00e+20
14544  #vlmex0 response time steps=6=(6.20+4.60+7.00+8.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
axPIr1.38e-01<PIrth<minPIv3.68e-01
14545  #vlmex1 response time steps=6.52=(5.20+6.00+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
axPIr1.30e-01<PIrth<minPIv5.30e-01
14546  #vlmex2 response time steps=5.64=(5.00+6.00+4.20+4.80+7.60+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #m
axPIr1.07e-02<PIrth<minPIv2.10e-01
14547  #vlmex3 response time steps=5.44=(4.20+4.80+7.60+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxPI
axPIr1.27e-01<PIrth<minPIv2.58e-01
14548  #vlmex4 response time steps=4.8=(5.40+4.00+4.60+6.00+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #m
axPIr1.27e-01<PIrth<minPIv5.56e-01
14549  echo "print (6+6.52+5.4+5.44+4.8)/5"|gnuplot #5.632
14550
14551  print 0.41**(4),0.02825761
14552  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:4 pth:.98 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void:1:028 gibbs:1 mex:-1
14553  #vlmex-1 response time steps=5.32=(4.80+4.80+7.00+6.00+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir1.72e-02<PIrth<minPIv1.00e+20
14554  #vlmex0 response time steps=5.32=(5.60+4.80+7.60+6.40+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir1.91e-02<PIrth<minPIv1.35e-01
14555  #vlmex1 response time steps=6.08=(5.20+4.80+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir1.69e-02<PIrth<minPIv2.81e-01
14556  #vlmex2 response time steps=5.52=(5.00+4.80+7.60+6.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir6.52e-03<PIrth<minPIv4.41e-02
```

```
14557  #vlmex3 response time steps=5.44=(4.20+4.70+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir1.63e-02<PIrth<minPIrv6.65e-02
14558  #vlmex4 response time steps=4.72=(5.00+4.00+4.60+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir1.63e-02<PIrth<minPIrv6.58e-02
14559  echo "print (5.53+6.08+5.52+5.44+4.72)/5"|gnuplot #5.458
14560
14561
14562  2012.06.15
14563  ########## Version2 OK for ICONIP2012 with PIrth and usevoid:1
14564  (1) PIrth (注 PIsecondmax/PImax (Version2,Version3で利用) with void
14565  #beta:1.0での結果  better Use this?
14566  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0 beta:1 pth:.61 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.41 gibbs:1 mex:-1
14567  #vlmex-1 response time steps=5.64=(5.00+4.60+7.20+6.00+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.62e-01<PIrth<minPIrv1.00e+20
14568  #vlmex0 response time steps=6.4=(6.20+5.80+7.00+8.80+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.62e-01<PIrth<minPIrv6.06e-01
14569  #vlmex1 response time steps=6.84=(6.40+5.80+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.72e-01<PIrth<minPIrv7.28e-01
14570  #vlmex2 response time steps=6.24=(6.20+5.80+8.20+6.00+5.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr2.84e-01<PIrth<minPIrv4.58e-01
14571  #vlmex3 response time steps=5.8=(5.40+5.80+7.20+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.57e-01<PIrth<minPIrv5.08e-01
14572  #vlmex4 response time steps=5.28=(5.60+4.00+4.60+6.80+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.57e-01<PIrth<minPIrv5.06e-01
14573  #maxPI at tEND での結果  mexlで,m2のPIが大きいのでvoidの反応を高くする必要がある →PNr調整(Version1)→
応答が遅くなる
14574  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0 beta:1 pth:.61 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.41 gibbs:1 mex:-1
14575  #vlmex-1 response time steps=5.64=(5.00+4.60+7.20+6.00+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.62e-01<PIrth<minPIrv1.00e+20
14576  #vlmex0 response time steps=6.4=(6.20+5.80+7.00+8.80+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.72e-01<PIrth<minPIrv6.06e-01
14577  #vlmex1 response time steps=6.84=(6.40+5.80+8.20+7.60+6.20+)/5,  (fp+FP)/All=(0+1)/25 Err:IDm2slt4 #m
axPIr3.61e-01<PIrth<minPIrv7.28e-01
14578                          v1 slt4_2il0 m0:0:0.039  uml:0:0.000  m2:0:0.452  m3:1:0.329  m4:0:0.011  m5:
                              v1 slt4_2il0 m0:0:0.039  uml:0:0.000  m2:0:0.452  m3:1:0.329  m4:0:0.011  m5:
0:0.168
14579  #vlmex2 response time steps=6.24=(6.20+5.80+8.20+6.00+5.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr2.84e-01<PIrth<minPIrv4.58e-01
14580  #vlmex3 response time steps=5.8=(5.40+5.80+7.20+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.57e-01<PIrth<minPIrv5.08e-01
14581  #vlmex4 response time steps=5.28=(5.60+4.00+4.60+6.80+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #max
PIr3.57e-01<PIrth<minPIrv5.06e-01
14582
14583  #beta:0.5
14584  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.46 ith:4
ts:4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.64 gibbs:1 mex:-1 ##pth:.64 for depdata2 _mex4
14585  #vlmex-1 response time steps=7.4=(6.80+6.20+8.80+7.60+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r6.02e-01<PIrth<minPIrv1.00e+20
14586  #vlmex0 response time steps=7.68=(7.20+6.00+8.80+8.80+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r6.10e-01<PIrth<minPIrv7.79e-01
14587  #vlmex1 response time steps=7.28=(7.60+6.00+8.80+7.60+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r6.01e-01<PIrth<minPIrv8.53e-01
14588  #vlmex2 response time steps=7.24=(7.40+6.00+9.00+6.40+7.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r4.65e-01<PIrth<minPIrv8.02e-01
14589  #vlmex3 response time steps=7.12=(7.60+6.20+7.80+6.20+7.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r5.33e-01<PIrth<minPIrv6.77e-01
14590  #vlmex4 response time steps=5.64=(6.40+6.80+5.60+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r5.98e-01<PIrth<minPIrv7.13e-01
14591  #vlmex-1 response time steps=7.16=(7.20+6.20+7.20+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxPI
r5.98e-01<PIrth<minPIrv7.12e-01
14592  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.46 ith:4
ts:4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.64 gibbs:1 mex:-1 #pth:.64 for mex4
14593  #vlmex-1 response time steps=5.24=(4.40+4.00+8.20+5.60+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir5.25e-01<PIrth<minPIrv1.00e+20
14594  #vlmex0 response time steps=5.84=(5.40+4.00+7.80+6.60+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir4.65e-01<PIrth<minPIrv8.02e-01
14595  #vlmex1 response time steps=5.76=(5.60+4.00+7.40+6.60+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir4.65e-01<PIrth<minPIrv8.53e-01
14596  #vlmex2 response time steps=5.92=(5.60+4.00+8.40+6.60+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir5.24e-01<PIrth<minPIrv8.12e-01
14597  #vlmex3 response time steps=5.36=(5.60+4.00+6.60+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir5.24e-01<PIrth<minPIrv8.74e-01
14598  #vlmex4 response time steps=5.44=(5.20+5.20+6.20+5.60+5.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #maxP
Ir3.92e-01<PIrth<minPIrv1.00e+20
14599  #vlmex-1 response time steps=6.92=(6.40+5.20+9.80+8.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
Ir3.92e-01<PIrth<minPIrv9.01e-01
14600  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.42 ith:4
ts:4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.64 gibbs:1 mex:-1 #use case tdisp:4 mex:1 for speech sl.<--s
earch with pth:.41 #maxPIr.61<minPIr.677
14601  #vlmex-1 response time steps=6.6=(5.60+4.80+8.80+6.40+7.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr6.02e-01<PIrth<minPIrv1.00e+20
14602  #vlmex0 response time steps=6.92=(6.40+5.20+8.00+8.60+5.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr6.10e-01<PIrth<minPIrv7.79e-01
```

```
14603  #vlmex1 response time steps=6.88=(6.60+5.80+8.20+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr6.01e-01<PIrth<minPIrv8.53e-01
14604  #vlmex2 response time steps=6.52=(6.40+5.80+8.20+6.00+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
axPIr5.33e-01<PIrth<minPIrv6.77e-01
14605  #vlmex3 response time steps=6.12=(5.60+5.80+7.60+5.40+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr5.98e-01<PIrth<minPIrv7.13e-01
14606  #vlmex4 response time steps=5.56=(5.60+4.00+6.00+6.80+5.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr5.98e-01<PIrth<minPIrv7.12e-01  -->0.64
14607
14608                       #ntxi:10:20での結果
14609  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:20 pmin:0 beta:0.5 pth:.42 ith:4
ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.9 void1:1.65 gibbs:1 mex:-1
14611  #vlmex-1 response time steps=8.76=(5.60+4.80+13.60+10.40+9.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr6.02e-01<PIrth<minPIrv1.00e+20
14612  #vlmex0 response time steps=10.52=(8.40+7.80+12.00+16.80+7.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr6.10e-01<PIrth<minPIrv7.79e-01
14613  #vlmex1 response time steps=9.28=(8.60+7.80+10.20+11.60+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr6.01e-01<PIrth<minPIrv8.53e-01
14614  #vlmex2 response time steps=8.52=(8.40+7.80+10.20+8.00+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr5.33e-01<PIrth<minPIrv6.77e-01
14615  #vlmex3 response time steps=8.12=(7.60+7.80+9.60+7.40+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr5.98e-01<PIrth<minPIrv7.13e-01
14616  #vlmex4 response time steps=7.16=(7.60+4.00+8.00+8.80+7.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #ma
xPIr5.98e-01<PIrth<minPIrv7.12e-01
14617                       #beta:2での結果  much faster
14618  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0 beta:2 pth:.85 ith:4 ts:
4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1.18 gibbs:1 mex:-1
14619  #vlmex-1 response time steps=5.36=(4.80+4.80+7.00+6.00+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.31e-01<PIrth<minPIrv1.00e+20
14620  #vlmex0 response time steps=6=(6.20+4.60+7.00+8.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.38e-01<PIrth<minPIrv3.68e-01
14621  #vlmex1 response time steps=6.52=(5.20+6.00+7.60+6.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.30e-01<PIrth<minPIrv5.30e-01
14622  #vlmex2 response time steps=5.64=(5.00+6.00+7.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr8.07e-02<PIrth<minPIrv2.10e-01
14623  #vlmex3 response time steps=5.44=(4.20+4.80+7.60+5.40+5.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.27e-01<PIrth<minPIrv2.58e-01
14624  #vlmex4 response time steps=4.8=(5.40+4.00+4.60+6.00+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr2.84e-01<PIrth<minPIrv4.58e-01
14625                       #beta:2, ntxi:10:20 での結果
14626  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:2 pth:.85 ith:4 t
s:4:0:3:1:2 tdisp:4 fmt:%.3f:1 PNr:.9 void1:1:18 gibbs:1 mex:-1
14627  #vlmex-1 response time steps=5.76=(4.80+4.80+7.00+8.00+4.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.31e-01<PIrth<minPIrv1.00e+20
14628  #vlmex0 response time steps=7.2=(6.20+4.60+9.00+12.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.38e-01<PIrth<minPIrv3.68e-01
14629  #vlmex1 response time steps=8.12=(5.20+8.00+7.60+11.60+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.30e-01<PIrth<minPIrv5.30e-01
14630  #vlmex2 response time steps=6.44=(5.00+8.00+7.00+8.20+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr8.07e-02<PIrth<minPIrv2.10e-01
14631  #vlmex3 response time steps=6.64=(4.20+4.80+9.60+7.40+7.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.27e-01<PIrth<minPIrv2.58e-01
14632  #vlmex4 response time steps=5.2=(5.40+4.00+4.60+8.00+4.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.27e-01<PIrth<minPIrv2.56e-01
14633
14634                       #gibbs:0での結果
14635  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:
3:1:2 tdisp:3 fmt:%.8f:1 PNr:.9 void1:1:1e-4 gibbs:0 mex:1
14636  #vlmex-1 response time steps=7.16=(7.20+6.00+8.80+7.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.85e-05<PIrth<minPIrv1.00e+20
14637  #vlmex0 response time steps=7.48=(7.80+6.20+8.60+8.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.01e-05<PIrth<minPIrv6.73e-03
14638  #vlmex1 response time steps=7.88=(7.80+7.40+8.20+8.20+7.80+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.73e-05<PIrth<minPIrv4.19e-02
14639  #vlmex2 response time steps=7.48=(7.00+7.00+10.00+7.00+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.43e-06<PIrth<minPIrv4.10e-04
14640  #vlmex3 response time steps=7.32=(7.20+7.20+8.80+6.40+7.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.37e-05<PIrth<minPIrv1.14e-03
14641  #vlmex4 response time steps=6.3=(5.80+5.20+6.20+7.60+6.80+)/5,  (fp+FP)/All=(1+0)/25 Err:none  #m
axPIr3.37e-05<PIrth<minPIrv1.1e-03  1e-4
14642  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:20 pmin:0.0 pth:.99 ith:4 ts:4:0:3
:1:2 tdisp:3 fmt:%.8f:1 PNr:.9 void1:1:1e-8 gibbs:0 mex:4
14643  #vlmex-1 response time steps=7.36=(7.20+6.00+9.80+7.20+6.60+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr3.43e-06<PIrth<minPIrv4.10e-04
14644  #vlmex0 response time steps=7.68=(7.80+6.20+9.60+8.20+8.20+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr2.51e-09<PIrth<minPIrv4.53e-05
14645  #vlmex1 response time steps=8.16=(7.80+7.40+8.20+8.20+9.20+)/5,  (fp+FP)/All=(0+0)/25 Err:IDm2slt4 #m
axPIr1.39e-09<PIrth<minPIrv1.75e-03
14646  #vlmex2 response time steps=8.44=(7.00+7.00+12.80+9.00+6.40+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
axPIr1.18e-11<PIrth<minPIrv1.68e-07
14647  #vlmex3 response time steps=8.32=(7.20+7.20+9.80+8.40+9.00+)/5,  (fp+FP)/All=(0+0)/25 Err:none  #m
```

14743 ### PI1/PI0
14744 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
14745 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.9:.8:.5:.8 void:0:.58 gibbs:1 mex:-1   #void:0:.58 -void:0:.62
       is possible
14746 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=54t4
14747 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=58t4 minPIv=76
14748 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=54t4 minPIv=75t3
14749 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=52t2 minPIv=65t2
14750 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=53t2 minPIv=63t4
14751 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=54t4 minPIv=71t1
14752
14753 ### PI1/PI0
14754 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
14755 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.5:.8 void:0:.60 gibbs:1 mex:-1
14756 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=53t3
14757 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=58t4 minPIv=75t3
14758 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=54t4 minPIv=74t1
14759 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=41t3 minPIv=65t2
14760 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=53t3 minPIv=63t4
14761 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s4t1
14762 maxPIr=54t4 minPIv=58t2
14763 ### PI1/PI0
14764 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
14765 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.8:.8 void:0:.60 gibbs:1 mex:-1
14766 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s1t3
       maxPIr=61t3
14767 ### PI1/PI0
14768 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
14769 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.9:.8:.8 void:0:.60 gibbs:1 mex:-1
14770 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=59t3
14771 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s1t3
14772 #v0mex1 minPIv=76t1 decrease Plrt3
14773 maxPIr=61t3 minPIv=76t1
14774 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=59t3 minPIv=87t1
14775 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=50t3 minPIv=61t1
14776 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=53t2 minPIv=63t4
14777 maxPIr=59t3 minPIv=71t2
14778 ### PI1/PI0
14779 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
14780 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.8:.8 void:0:.70 gibbs:1 mex:-1
14781 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=59t3
14782 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
       minPIv=75t3 minPIv=76t1
14783 #v0mex1 minPIv=76t1
14784 maxPIr=59t3 minPIv=87t1
14785 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=50t3 minPIv=61t1
14786 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=53t2 minPIv=63t4
14787 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=59t3 minPIv=76t1
14788 maxPIr=59t3 minPIv=71t2

14789 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s2t2
       maxPIr=50t3 minPIv=61t3
14790 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm2s3t4
       maxPIr=53t2 minPIv=63t4
14791 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none m
       axPIr=59t3 minPIv=71t2
14792
14793 ### PI1/PI0
14794 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 beta:0.0 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.9:.9:.8:1 void:0:.70 gibbs:1 mex:-1
14795 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=69t4
14796 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
       maxPIr=74t4 minPIv76t1 xx
14797 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4 minPIv8lt4
14798 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s2t2
       maxPIr=49t2 minPIv6lt2 xx
14799 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=65t4 minPIv7lt2
14800 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4 minPIv7lt1
14801
14802 ### PI1/PI0
14803 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.9:1:.8:1 void:0:.70 gibbs:1 mex:-1
14804 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=69t4
14805 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
       maxPIr=74t4minPIv76t1 xx
14806 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4minPIv8lt4
14807 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s2t2
       maxPIr=50t3<minPIv6lt2 xx-->increase
14808 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=65t4<minPIv72t3
14809 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4<minPIv7lt2
14810
14811
14812 ### PI1/PI0
14813 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.8:.9:1 void:0:.70 gibbs:1 mex:-1
14814 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4
14815 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=74t4 minPIv=75t3
14816 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=69t4 minPIv=74t2
14817 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s2t2
       maxPIr=54t3 minPIv=65t2
14818 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=65t4 minPIv=76t2
14819 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm0s4t1
       maxPIr=69t4 minPIv=58t1
14820
14821 ### PI1/PI0
14822 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.9:1:.8:1 void:0:.70 gibbs:1 mex:-1
14823 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.8:.99 void:0:.70 gibbs:1 mex:-1
14824 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       maxPIr=69t4
14825 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
       minPIv=75t3 maxPIr=75t4 xx
14826 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       minPIv=74t2 maxPIr=69t4
14827 #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm1s2t2
       maxPIr=65t3 minPIv=50t3 xx
14828 #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
       minPIv=76t2 maxPIr=65t4
14829 #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm0s4t1
       minPIv=58t2 maxPIr=69t4 xx
14830
14831 ### PI3/PI0
14832 f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
       ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:1 PNr:.8:.8:.99 void:0:.47 gibbs:1 mex:-1
14833 #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none ma
       xPIr=46t3
14834 #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
       maxPIr=28t4 minPIv55
14835 #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm2s1t4

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14836        maxPIr=28t4 minPIv=37t4
14836    #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm3s2t2
IDm3s2t3 maxPIr=35t4 minPIv=26t3
14837    #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm2s3t3
         maxPIr=26t4 minPIv=24t3
14838    #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm0s4t1
         maxPIr=37t4 minPIv=41t2
14839    ## P12/PI0
14840    ### P12/PI0
14841    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
ith:100  ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:-1
14842    #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
         maxPIr=65
14843    #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm3s0t1
IDm5s2t4  minPIv=55t2 maxPIr=70t4
14844    #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm3s1t4
         maxPIr=42t4 maxPIr=37t4
14845    #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+3)/25 Err:IDm0s2t1
IDm3s2t3 IDm3s2t3 maxPIr=36t3 minPIv=39t4
14846    #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+3)/25 Err:IDm0s3t1
IDm3s2t3 IDm3s2t4 minPIv=32t3 maxPIr=37t4
14847    #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm0s4t1
         minPIv=55t2 maxPIr=49t3
14848        minPIv=49t3
14849    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
ith:100  ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:0:.66 gibbs:1 mex:-1
14850    # with 4mean
14851    #v0mex-1 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
         maxPIr=50t4
14852    #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm3s0t1
minPIv=47t2 maxPIr=35t4
14853    #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm3s0t4
minPIv=51t4 maxPIr=53t4
14854    #v0mex2 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm3s2t3
minPIv=46t3 maxPIr=49t4
14855    #v0mex3 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm5s3t3
IDm2s3t3 minPIv=42t3 maxPIr=57t4
14856    #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm5s0t4
IDm5s2t4 minPIv=.63 maxPIr=.52t4
14857        minPIv=.52t4
14858    ## PI0/[(PI1+PI2)/2]
14859    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:0.5 pth:.51
ith:100  ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:0:.50 gibbs:1 mex:0
14860    # with 3mean
14861    #v0mex1 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:none
         minPIv=.54,maxPIr=.44
14862    #v0mex2 IDm3s2t3 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+3)/25 Err:IDm0s2t1
IDm1s2t2 IDm3s2c3 minPIv=.53,maxPIr=.41
14863    #v0mex3 IDm3s2t3 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm5s3t3
IDm2s3t4 minPIv=.421t3 maxPIr=57t4
14864    #v0mex4 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s0t4
         minPIv=.41 maxPIr=.57
14865    ###############################################
14866    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:20 pmin:0.0 beta:1.0 pth:.78
ith:100  ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:-1
14867    #v0mex0 response time steps=20=(20.00+20.00+20.00+20.00+20.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s2t4
         minPIr=.56nex0, maxPIr=0.56reg
14868    #v0mex1 response time steps=30=(30.00+30.00+30.00+30.00+30.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm0s2t1
IDm1s2t2 IDm3s2c3 minPIv=.53,maxPIr=.41
14869    #v0mex2 IDm3s2t3 response time steps=30=(30.00+30.00+30.00+30.00+30.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm3s2t3
IDm2s3t4 minPIv=.421t3 maxPIr=57t4
14870    #v0mex3 minPIv=.46,maxPIr=.43 response time steps=30=(30.00+30.00+30.00+30.00+30.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm0s2t1
14871    #v0mex4 minPIv=.33mex4 response time steps=30=(30.00+30.00+30.00+30.00+30.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14872    ###########################################
14873    #NG2012.06.10-13 replace the result of beta=0.5 by 1.0 for gibbs:1
14874    #NG#
14875    #NGf=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:1 pth:.2
6 ith:100 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:-1
14876    #NG#v0mex-1 response time steps=9.76=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:non
e
14877    #NG#v0mex0 response time steps=7.6=(7.60+5.20+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14878    #NG#v0mex1 response time steps=7.76=(8.40+5.20+8.60+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14879    #NG#v0mex2 response time steps=7.88=(9.00+5.20+11.00+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14880    #NG#v0mex3 response time steps=7.44=(8.00+5.20+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14881    #NG#v0mex4 response time steps=7.36=(6.40+5.20+8.80+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
ith:14   ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:-1
14882    #NG#v0mex-1 response time steps=6.76=(7.00+4.00+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14883    #NG#v0mex0 response time steps=7.76=(8.40+5.20+8.60+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14884    #NG#v0mex1 response time steps=7.56=(8.60+5.20+10.00+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14885    #NG#v0mex2 response time steps=7.=(7.40+5.20+8.80+6.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14886    #NG#v0mex3 response time steps=7.44=(8.00+5.20+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14887    #NG#v0mex4 response time steps=7.12=(5.60+5.20+8.40+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
```

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14888    #NGprint (7.6+7.76+7.56+7.12)/5,"=7.408"
14889    #NGf=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:1.0 pth:.
78 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:1
14890    #NGf=../mineishi/text-depdata2.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:1.0 pth:.7
8 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:1
14891    #NG#v0mex-1 response time steps=6.76=(7.00+4.00+8.80+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none in
depdata beta:1
14892    #NG#v0mex0 response time steps=7.6=(7.60+5.20+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14893    #NG#v0mex1 response time steps=7.72=(8.20+5.20+8.80+6.40+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14894    #NG#v0mex2 response time steps=7.48=(8.20+5.20+10.00+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14895    #NG#v0mex3 response time steps=6.92=(7.40+5.20+8.80+5.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14896    #NG#v0mex4 response time steps=7.2=(5.80+5.20+8.60+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14897    #NGprint (7.6+7.72+7.48+6.92+7.2)/5,"=7.384"
14898    #NG###
14899    2012.06.14 not for ICONIP20122
14900    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.
ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:1
14901    #v0mex-1 response time steps=7.08=(7.40+4.00+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir7.09e-01<PIrth<minPIv1.00e+20 beta:0.5
14902    #v0mex0 response time steps=7.6=(7.60+5.20+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir7.93e-01<PIrth<minPIv7.44e-01
14903    #v0mex1 response time steps=7.72=(8.20+5.20+8.80+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir7.08e-01<PIrth<minPIv7.99e-01
14904    #v0mex2 response time steps=7.48=(8.20+5.20+10.00+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir5.41e-01<PIrth<minPIv6.97e-01
14905    #v0mex3 response time steps=6.84=(7.00+5.20+8.80+5.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir6.89e-01<PIrth<minPIv4.34e-01
14906    #v0mex4 response time steps=6.84=(7.00+5.20+8.60+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir6.89e-01<PIrth<minPIv8.34e-01
14907    #v0mex4 response time steps=7.2=(5.80+5.20+8.60+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none #maxP
Ir7.08e-01<PIrth<minPIv6.15e-01
14908    maxPIr7.9<minPIv6.15
14909    #v0mex0 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, #m
axPIr9.55e-01<PIrth<minPIv9.42e-01 beta:e-0.1
14910    #v0mex1 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, #m
axPIr9.29e-01<PIrth<minPIv5.53e-01 beta:e-0.1
14911    #v0mex0 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, #m
axPIr9.77e-01<PIrth<minPIv9.71e-01 beta:0.05
14912
14913
14914    2012.06.13 not for ICONIP2012
14915    #NGPI[s]|t[l0][l0][m]=PI0=FN[m|l|t]; // better but hard to explain
14916    #NGf=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.
37 ith:5 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 p0:1 mex:-1
14917    #NG#v0mex-1 response time steps=6.56=(5.40+5.00+8.60+5.80+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14918    #NG#v0mex0 response time steps=6.72=(6.40+5.00+7.20+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14919    #NG#v0mex1 response time steps=6.68=(6.40+5.00+7.40+6.60+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14920    #NG#v0mex2 response time steps=6.64=(6.40+5.00+7.60+5.60+8.00+)/5, (fp+FP)/All=(0+3)/25 Err:none
14921    #NG#v0mex3 response time steps=6.2=(6.00+5.00+7.00+5.00+8.00+)/5, (fp+FP)/All=(1+0)/25 Err:none
14922    #NG#v0mex4 response time steps=6.68=(6.40+5.20+8.20+5.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14923    #NG#v0mex4 response time steps=5.84=(6.00+5.00+5.40+7.00+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14924    ###########################
14925    p0:1 ==> PI[s|t[l0]|m]=PI0=FN[m|l|t]; // better but hard to explain
14926    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 beta:0.5 pth:.45
ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 p0:1 mex:-1
14927    #v0mex-1 response time steps=6.76=(7.00+4.00+8.80+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14928    #v0mex0 response time steps=7.6=(7.60+5.20+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14929    #v0mex1 response time steps=7.64=(7.80+5.20+10.00+6.20+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14930    #v0mex2 response time steps=7.36=(7.80+5.20+10.00+6.20+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14931    #v0mex3 response time steps=6.68=(6.40+5.20+8.20+5.60+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14932    #v0mex4 response time steps=6.76=(5.80+5.00+5.00+5.20+5.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
14933    print (7.6+7.64+7.36+6.68+6.76)/5=7.208
14934    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.99 ith:4 ts:
4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 p0:1 mex:-1
14935    #v0mex-1 response time steps=5.28=(4.60+4.00+6.20+5.20+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
14936    #v0mex0 response time steps=5.32=(5.20+4.00+6.00+5.40+6.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14937    #v0mex1 response time steps=5.64=(5.00+4.00+6.40+5.20+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm5s1t3
14938    #v0mex2 response time steps=5.72=(5.00+4.00+7.60+5.40+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14939    #v0mex3 response time steps=5.56=(4.80+4.00+6.00+5.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14940    #v0mex4 response time steps=4.96=(4.80+4.00+6.00+5.00+5.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
14941
14942    2012.06.10 use the result for gibbs:0 ############# OK-Version1 for ICONIP2012 described in iconip12spe
ech0614Version1.tex
14943    (1)PP の計算を変更 used for ICONIP2012
14944    ################HPNr:.8:.8:.8:.99 better than below PNr:.7:.7:.7:.99 for ntxi:10:12
14945    f=../mineishi/text-indepdata.dat
14946    #f=../mineishi/text-depdata2.dat
14947    f=../mineishi/text-indepdata.dat:loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts
:4:0:3:1:2 tdisp:3 fmt:%.8f:l PNr:.8:.8:.8:.99 void:1 gibbs:0 mex:1
14948    ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.3f:l PNr:.8:.8:.8:.99 void:1 gibbs:1 mex:1 ntxi:10:10 pth:.51
14949    #f=../mineishi/text-depdata2.dat
```

```
14950  ####Original Verification Error Rate:0.024(6/250)0.024(6/250)0.056(14/250)0.072(18/250)
14951  #Original Verification    FP Rate:0.000(1/200)0.000(0/200)0.010(2/200)0.015(3/200)0.000(0/200)
14952  #Original Verification    FN Rate:0.100(5/50)0.120(6/50)0.240(12/50)0.220(11/50)0.360(18/50)
14953  #Original Identification Error Rate:0.080(4/50)0.060(3/50)0.100(5/50)0.040(2/50)
14954  #vlmex-1 response time steps=4.84=(4.00+4.00+5.60+5.00+5.60+)/5, (fp+FP)/All=(0+0)/25 Err:none gibbs
:0 bayes
14955  #vlmex-1 response time steps=5.24=(4.00+4.00+6.40+5.80+6.00+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:0.5 pth:.51
14956  #vlmex-1 response time steps=5.16=(4.00+4.00+6.40+5.60+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:1.0 pth:.78
14957
14958  #vlmex0 response time steps=5.2=(4.00+4.00+6.20+6.00+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none  gibbs:
0 depdata2
14959  #vlmex1 response time steps=5.28=(4.00+4.00+6.60+6.00+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14960  #vlmex2 response time steps=5.28=(4.00+4.00+6.40+6.20+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14961  #vlmex3 response time steps=4.92=(4.00+4.00+6.20+4.60+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14962  #vlmex4 response time steps=5.2=(4.40+4.00+4.00+4.60+4.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
14963  print (5.2+5.28*2+4.92+4.2)/5,"=4.976"
14964  #vlmex0 response time steps=6.28=(5.20+5.20+7.40+7.00+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none gibbs:
1 depdata2
14965  #vlmex1 response time steps=5.72=(5.20+4.00+6.80+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14966  #vlmex2 response time steps==(5.20+4.00+7.60+6.40+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14967  #vlmex3 response time steps=5.28=(4.00+5.20+5.60+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
14968  #vlmex4 response time steps=5.36=(5.20+5.20+6.00+5.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
14969  print (6.28+5.72+5.28+5.36)/5,"=5.728"
14970
14971  #f=../mineishi/text-indepdata.dat;
14972  ####Original Verification Error Rate:0.076(19/250)0.052(13/250)0.108(27/250)0.120(30/250)0.132(33/25
0)
14973  #Original Verification    FP Rate:0.015(3/200)0.015(3/200)0.040(8/200)0.070(14/200)0.040(8/200)
14974  #Original Verification    FN Rate:0.320(16/50)0.200(10/50)0.380(19/50)0.320(16/50)0.500(25/50)
14975  #Original Identification Error Rate:0.20b=(5.40+4.00+7.80+5.80+7.40+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
14976  #vlmex-1 response time steps=6.0b=(5.40+4.00+7.80+5.80+7.40+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:0 bayes pth:.999
14977  #vlmex-1 response time steps=9.76=(10.00+8.80+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none #
gibbs:1 beta:0.1 pth:.26
14978  #vlmex-1 response time steps=7.12=(7.60+4.00+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:0.4 pth:.44
14979  #vlmex-1 response time steps=7.08=(7.40+4.00+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:0.5 pth:.51
14980  #vlmex-1 response time steps=7.08=(7.40+4.00+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:0.6 pth:.57
14981  #vlmex-1 response time steps=6.76=(7.00+4.00+8.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:0.8 pth:.68
14982  #vlmex-1 response time steps=6.76=(7.00+4.00+8.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:1.0 pth:.78
14983  #vlmex-1 response time steps=6.76=(7.00+4.00+8.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:1.5 pth:.91
14984  #vlmex-1 response time steps=6.76=(7.00+4.00+8.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:2.0 pth:.97
14985  #vlmex-1 response time steps=6.72=(6.80+4.00+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibb
s:1 beta:4.0 pth:.999
14986  #vlmex0 response time steps=5.28=(5.80+4.00+8.00+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibbs
:0 indepdata beta:0.5
14987  #vlmex1 response time steps=5.64=(6.20+4.20+7.40+6.80+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14988  #vlmex2 response time steps=6.2=(6.00+4.20+8.20+6.00+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14989  #vlmex3 response time steps=6.24=(6.00+4.20+8.20+6.00+5.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14990  #vlmex4 response time steps=5.76=(5.60+6.60+7.00+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14991  print (6.28+6.64+6.2+6.24+5.76)/5,"=6.224"
14992  #indepdata beta:0.5
14993  #vlmex-1 response time steps=6.5=(7.60+5.20+8.80+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none #gibbs:
1 indepdata beta:0.5
14994  #vlmex1 response time steps=7.72=(8.20+5.20+8.80+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
14995  #vlmex2 response time steps=7.48=(8.20+5.20+10.00+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14996  #vlmex3 response time steps=6.84=(7.00+5.20+8.80+5.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
14997  #vlmex4 response time steps=7.2=(5.80+5.20+8.60+7.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
14998  print (7.6+7.72+7.48+6.84+7.2)/5,"7.368"
14999  print =-./mineishi/text-depdata2.dat;loo4gibbs-sr fn:$f ns:5 ntxi::10:10 pmin:0.0 pth:.78 ith:4 ts:4
:0:3:1:2 tdisp:3 fmt:%.3f:1 beta:1.0 PNr::8:.8:.8:.99 void:1 gibbs:1 mex:-1
15000  #vlmex-1 response time steps=6.76=(7.00+4.00+8.80+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15001  #vlmex1 response time steps=7.6=(7.60+5.20+8.80+8.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15002  #vlmex2 response time steps=7.72=(8.20+5.20+8.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15003  #vlmex3 response time steps=7.48=(8.20+5.20+10.00+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15004  #vlmex4 response time steps=5.92=(7.40+5.20+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15005  #vlmex4 response time steps=7.2=(5.80+5.20+8.60+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15006
15007  ##
15008  #
15009  loo4gibbs-sr fn:$f ns:5 ntxi::10:10 pmin:0.0 pth:.99999 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.10f:1
PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15010  ################### result
15011  ################### result
```

```
15012  ####f=../mineishi/text-depdata2.dat ,pth:.99999
15013  #vlmex-1 response time steps=5.56=(4.00+4.00+4.60+6.00+9.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15014  #vlmex0 response time steps=6.16=(4.60+4.40+5.20+7.20+9.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15015  #vlmex1 response time steps=6.2 =(4.60+4.40+5.60+6.60+9.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15016  #vlmex2 response time steps=6.16=(4.60+4.20+6.00+6.80+9.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15017  #vlmex3 response time steps=6.2 =(4.80+5.20+5.60+6.60+9.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15018  #vlmex4 response time steps=4.64=(4.40+4.00+4.40+4.60+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15019  print (4.6*4+4.8)/5=4.64, (4.4*3+4.2*2)/5,(5.2+5.6+6.0+5.6+4.6)/5, (7.2+6.6+6.8+6.6+5.0)/5, (9.4+9.8
+9.2+9.4)/5, "4.64 4.32 5.4 6.44 8.44"
15020  print (6.16+6.2+6.16+6.28+4.64)/5,"=5.888"
15021
15022  pth:.99999    Err:none for all
15023  pth:0.999    Err:none for all
15024  pth:0.99    Err:none for all
15025  loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.99999 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.10f:1
PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15026  ####f=../mineishi/text-indepdata.dat
15027  #vlmex-1 response time steps=7=(7.00+4.80+8.00+7.20+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15028
15029  #vlmex0 response time steps=7.68=(8.00+4.60+8.80+8.40+8.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15030  #vlmex1 response time steps=7.72=(8.20+6.00+7.60+9.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15031  #vlmex2 response time steps=7.8 =(8.20+5.60+9.40+7.20+8.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15032  #vlmex3 response time steps=7.44=(7.60+5.60+8.80+8.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15033  #vlmex4 response time steps=7.16=(6.60+5.60+7.40+8.40+8.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15034  #vlmex-1 response time steps=7.16=(6.60+5.60+7.40+8.40+8.00+)/5,(8.8*2+7.8+9.4+7.4)/5,(8.4*2*7.6+7.2+6.8)/5,(8.4*2+7.6+7.2+6.8)/5,(8.4*2*7.6+7.2+9.0
+8.4+8)/5, "=7.72 5.44 8.44 7.68 8.52"
15035  print (8+8.2*2+7.6+6.6)/5,(4.6+6+5.6*2+5.4)/5,
15036  print (7.68+7.72+7.8+7.44+7.16)/5,"=7.56"
15037  f=../mineishi/text-indepdata.dat;loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.99999 ith:4
ts:4:0:3:1:2 tdisp:3 fmt:%.9f:1 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:1
15038  pth:.99999    Err:none for all
15039  pth:0.999
15040  pth:0.99
15041  #vlmex1 response time steps=6.04=(6.00+4.20+5.40+6.00+8.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0slt3
15042  pth:.99
15043  #vlmex1 response time steps=5.44=(5.00+4.00+4.80+5.60+7.80+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0slt3
15044  #vlmex3 response time steps=5.16=(4.80+4.00+5.00+4.40+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3
15045  pth:.98
15046  #vlmex1 response time steps=5.36=(4.80+4.00+4.80+5.60+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0slt3
15047  #vlmex2 response time steps=5=(4.60+4.20+5.60+5.40+)/5, (fp+FP)/All=(1+0)/25 Err:IDm5s0t4
15048  #vlmex3 response time steps=5.08=(4.60+4.00+5.00+4.20+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3
15049  pth:0.97
15050  #vlmex-1 response time steps=4.8=(4.60+4.00+4.60+4.80+6.00+)/5, (fp+FP)/All=(1+0)/25 Err:IDm5s0t4
15051  #vlmex1 response time steps=5.04=(4.60+4.00+4.60+5.40+6.60+)/5, (fp+FP)/All=(2+0)/25 Err:IDm5s0t4 ID
m0slt3
15052  #vlmex2 response time steps=4.96=(4.60+4.20+5.00+5.60+5.40+)/5, (fp+FP)/All=(1+0)/25 Err:IDm5s0t4
15053  #vlmex3 response time steps=5.04=(4.40+4.00+4.20+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3
15054
15055  loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.10f:1 PN
r:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15056  #vlmex-1 response time steps=5.68=(5.40+4.00+5.60+6.00+7.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15057  #vlmex0 response time steps=5.88=(6.00+4.00+6.00+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15058  #vlmex1 response time steps=6.24=(7.00+4.60+7.20+5.80+6.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15059  #vlmex2 response time steps=5.84=(5.80+4.20+6.20+5.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15060  #vlmex3 response time steps=5.84=(5.80+4.20+6.20+5.40+7.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15061  #vlmex4 response time steps=5.88=(5.20+4.20+6.20+6.60+7.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15062  loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.999 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.10f:1 PN
r:.7:.7:.7:.99 void:1 gibbs:0 mex:1
15063  v1 slt1_310 m1:-0.20000000000     uml1:-0.20000000000     ml1:-0.2000
000000000     ml-:0.20000000000
15064  v1 slt1_311 m0:1:0.9346232728     uml1:1:0.0000000000     m2:0:0.0040753195     m3:0:0.035120640     m4:0:0.0210
475342  v1 slt1_312 m0:1:0.0367418096     uml1:1:0.0000000000     m2:0:0.000189734     m3:0:0.000140912     m4:0:0.0005
15065  v1 slt1_312 m0:1:0.9979186410
060861  v1 slt1_316 m0:0:0.001542083     uml1:1:0.9995544320     uml1:1:0.0000000000     m2:0:0.000000000     m3:0:0.000000016     m4:0:0.000000
008317  v1 slt1_316 m0:0:0.0004447318
114199  v1 slt1_313 m0:1:0.9999276950     uml1:1:0.9876324087     uml1:1:0.0000000000     m2:0:0.000000110     m3:0:0.000000054     m4:1:0.0005
15067  v1 slt1_314 m0:0:0.9915505757x     uml1:0:0.0000000000     m2:0:0.000002332     m3:0:0.000001511     m4:0:0.0000
205242  v1 slt1_315 m0:0:0.00082815157
15068  v1 slt1_315 m0:1:0.9999669387     uml1:1:0.0000000006     m2:0:0.000000010     m3:0:0.000000006     m4:0:0.0000
004626  v1 slt1_316 m0:0:0.000325971
15069  v1 slt1_316 m0:0:0.9995544320     uml1:1:0.0000000000     m2:0:0.000000029     m3:0:0.000000016     m4:0:0.0000
008317  v1 slt1_316 m0:0:0.0004447318
935852  v1 slt1_317 m0:0:0.0117739898     uml1:0:0.0000000000     m2:0:0.000000110     m3:0:0.000000054     m4:1:0.0005
15070  v1 slt1_317 m0:0:0.9876324087
288664  v1 slt1_318 m0:0:0.8592574376
15071  v1 slt1_318 m0:0:0.3102872424     uml1:1:0.0000000000     m2:0:0.000000269     m3:0:0.0000000133     m4:0:0.0009
033038  v1 slt1_319 m0:0:0.1398136558
15072  v1 slt1_319 m0:0:0.310872424     uml1:1:0.0000000000     m2:0:0.000000274     m3:0:0.000000137     m4:0:0.0006
15073  v1 slt1_3i10 m0:0:0.0196494162     uml1:1:0.0000000000     m2:0:0.000000741     m3:1:0.000004303     m4:0:0.000
0696902  m5:0:0.9802803892
15074  #v1 mex1 Case2:Err @4 by IDm0slt3  fP=1 fP=1 Number of Responses 2=tP(1)-fP(1)
15075  #############
```

```
15076 v1 slt1_3i0 m1:-:0.000 uml:-:0.000 m1:-:0.200      m1:-:0.200
15077 v1 slt1_3i1 m0:1:0.935 uml:1:0.000 m2:0:0.004      m5:0:0.037
15078 v1 slt1_3i2 m0:1:0.998 uml:1:0.000 m3:0:0.004      m5:0:0.002
15079 v1 slt1_3i3 m1:1:1.000 uml:1:0.000 m4:0:0.000      m5:0:0.001
15080 v1 slt1_3i4 m0:0:0.999x uml:1:0.000 m4:0:0.000     m5:1:0.001
15081 v1 slt1_3i5 m0:1:1.000 uml:1:0.000 m4:0:0.000      m5:0:0.000
15082 v1 slt1_3i6 m0:0:1.000 uml:1:0.000 m4:0:0.000      m5:1:0.000
15083 v1 slt1_3i7 m0:0:0.988 uml:1:0.000 m4:1:0.000      m5:0:0.012
15084 v1 slt1_3i8 m0:0:0.859 uml:1:0.000 m4:0:0.001      m5:1:0.140
15085 v1 slt1_3i9 m0:0:0.310 uml:1:0.000 m4:0:0.001      m5:1:0.689
15086 v1 slt1_3i10 m0:0:0.020 uml:1:0.000 m3i1:0.000     m4:0:0.000 m5:0:0.980
15087 #v1 mexl Case2:Err @4 by IDm0slt3 fP=1 fP=1 Number of Responses 2=tP(1)-fP(1)
15088 #vlmexl response time steps=6.04=(6.00+4.20+5.40+6.00+6.60+)/5, (fp+FP)/All=(1+0)/25, (fp+FP)/All=(1+0)/25 Err:IDm0slt3
15090 ##
15091 f=../mineishi/text-indepdata.dat
15092 #f=../mineishi/text-depdata2.dat
15093 loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.55 ith:4 tdisp:3 tdisp:3 fmt:%.2f:1 beta
:0.5 PNr:.7:.7:.7:.7:.99 void:1 gibbs:1 mex:-1
15094 #f=../mineishi/text-depdata2.dat
15095 #vlmex-1 response time steps=5.48=(4.00+4.00+4.00+9.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15096 #vlmex0 response time steps=6.52=(5.20+5.20+5.20+7.60+9.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15097 #vlmex1 response time steps=5.96=(5.20+5.20+5.20+5.40+7.60+)/5, (fp+FP)/All=(0+0)/25, Err:none
15098 #vlmex2 response time steps=5.44=(5.20+4.00+5.20+5.40+7.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15099 #vlmex2 response time steps=5.72=(5.20+5.20+5.20+5.60+7.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15100 #vlmex3 response time steps=5.72=(5.20+5.20+5.20+5.60+7.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15101 #vlmex4 response time steps=5.2 =(5.20+5.20+5.20+5.20+)/5, (fp+FP)/All=(0+0)/25, Err:none
15102 print 5.2,(5.2*3+4*2)/5, 5.2,(7.6+5.4*2+5.6+5.2)/5,(9.4+10+7.4*2+5.2)/5,"=5.2 4.72 5.2 5.84 7.88"
15103 print (6.52+5.96+5.44+5.72+5.2)/5,"=5.768"
15104
15105 ###f=../mineishi/text-indepdata.dat
15106 f=../mineishi/text-indepdata.dat/loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.55 ith:4 ts:
4:0:3:1:2 tdisp:3 fmt:3.3f:1 beta:0.5 PNr:.7:.7:.7:.7:.99 void:1 gibbs:1 mex:-1
15107 #pth:.55
15108 #vlmex-1 response time steps=7.28=(8.40+4.00+8.00+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15109
15110 #vlmex0 response time steps=7.36=(7.60+8.80+7.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15111 #vlmex1 response time steps=7.52=(8.40+5.20+7.60+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15112 #vlmex2 response time steps=7.72=(9.00+5.20+10.0+6.80+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15113 #vlmex2 response time steps=7.24=(8.20+5.20+8.80+6.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15114 #vlmex3 response time steps=7.32=(6.60+5.20+8.40+7.60+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15115 print (7.6+8.4+9+8.2+6.6)/5,2,(7.6*2+10+8.8+8.4)/5, (8.8+7.6*2+6.8+6.4)/5,(7.6*3+8.8*2)/5,"=7.96
5.2 8.48 7.44 8.08"
15116 print (7.36+7.52+7.72+7.24+7.32)/5,"=7.432"
15117 #pth:.55 Error none
15118 #vlmexl response time steps=7.28=(8.20+5.20+7.60+6.60+8.80+)/5, (fp+FP)/All=(1+0)/25, Err:IDm0slt3 pt
h:.54
15119 #vlmexl response time steps=6.92=(7.80+5.20+6.40+6.40+8.80+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0slt3 pt
h:.45
15120 #vlmexl response time steps=5.8 =(5.60+4.00+7.60+4.20+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 pt
h:.45
15121 #vlmexl response time steps=6 =(6.60+4.00+6.00+5.80+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0slt3 pt
h:.40
15122 #vlmex3 response time steps=5.4 =(5.20+4.00+6.20+4.00+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 pt
h:.40
15124 #vlmex4 response time steps=5.4 =(5.80+4.00+4.20+5.40+7.60+)/5, (fp+FP)/All=(2+0)/25 Err:IDm0slt3 IDm
2s3t3 pth:.38
15125 #vlmex3 response time steps=5.32=(5.20+4.00+5.80+4.00+7.60+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 pt
h:.38
15126 #vlmex4 response time steps=5.12=(5.60+4.00+4.20+6.40+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 pt
h:.38
15127
15128 #vlmex-1 response time steps=4.92=(5.00+4.00+5.00+4.20+6.40+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 p
th:.35
15129 #vlmexl response time steps=4.8 =(4.80+4.00+4.40+6.80+)/5, (fp+FP)/All=(2+0)/25 Err:IDm0slt3 IDm
2s3t3 pth:.35
15130 h:.35
15131 #vlmex2 response time steps=4.72 =(4.60+4.00+5.80+4.00+5.20+)/5, (fp+FP)/All=(1+0)/25 Err:IDm3s2t3 pt
h:.35
15132 #vlmex3 response time steps=4.96=(4.20+4.00+5.80+4.00+6.80+)/5, (fp+FP)/All=(1+0)/25 Err:IDm2s3t3 pt
h:.35
15133 #vlmex4 response time steps=4.76=(5.60+4.00+4.00+4.00+6.20+)/5, (fp+FP)/All=(2+0)/25 Err:IDm3s2t3 ID
m2s3t3 pth:.35
15134 ###f=../mineishi/text-depdata2.dat
15135 #vlmex-1 response time steps=5.48=(4.00+4.00+4.00+6.00+9.40+)/5, (fp+FP)/All=(0+0)/25 Err:none pth:
0.55
15136 loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.54 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.2f:1 beta
:0.5 PNr:.7:.7:.7:.7:.99 void:1 gibbs:1 mex:-1
15137 #f=../mineishi/text-depdata2.dat
15138 v1 slt1_3i0 ml:-:0.20 uml:-:0.00 ml:-:0.20  ml:-:0.20
```

```
15139 v1 slt1_3i1 m0:1:0.68 uml:1:0.00 m2:0:0.04  m3:0:0.04  m4:0:0.10  m5:0:0.13
15140 v1 slt1_3i2 m0:1:0.68 uml:1:0.00 m2:0:0.04  m3:0:0.04  m4:0:0.10  m5:0:0.13
15141 v1 slt1_3i3 m0:1:0.68 uml:1:0.00 m2:0:0.04  m3:0:0.04  m4:0:0.10  m5:0:0.13
15142 v1 slt1_3i4 m0:1:0.51 uml:1:0.00 m2:0:0.08  m3:0:0.07  m4:0:0.10  m5:0:0.21
15143 v1 slt1_3i5 m0:1:0.55x uml:1:0.00 m2:0:0.07 m3:0:0.07  m4:0:0.13  m5:0:0.19
15144 v1 slt1_3i6 m0:0:0.45 uml:1:0.00 m2:0:0.09  m3:0:0.08  m4:0:0.14  m5:0:0.24
15145 v1 slt1_3i7 m0:0:0.35 uml:1:0.00 m2:0:0.10  m3:0:0.09  m4:1:0.21  m5:0:0.26
15146 v1 slt1_3i8 m0:0:0.31 uml:1:0.00 m2:0:0.11  m3:0:0.11  m4:0:0.20  m5:1:0.28
15147 v1 slt1_3i9 m0:0:0.28 uml:1:0.00 m2:0:0.11  m3:0:0.11  m4:0:0.20  m5:1:0.29
15148 v1 slt1_3i10 m0:0:0.24 uml:1:0.00 m2:0:0.13 m3:1:0.14  m4:0:0.18  m5:0:0.30
15149 #v1 mexl Case2:Err @5 by IDm0slt3 fP=1 fP=1 Number of Responses 2=tP(1)-fP(1)
15150
15151 #test of void:0
15152 loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.22 ith:4 ts:4:0:3:1:2 tdisp:3 tdisp:3 fmt:%.2f:1 beta
:0.06 PNr:.7:.7:.7:.7:.99 void:1:0.28 gibbs:1 mex:0
15153
15154 loo4gibbs-sr fn:$f ns:5 ntx:5 ntxi:10:10 pmin:0.0 pth:.3 ith:4 ts:4:0:3:1:2 tdisp:3 fmt:%.2f:1 beta:
0.1 PNr:.7:.7:.7:.7:.99 void:0:0.28 gibbs:1 mex:0
15155
15156 ###
15157 ###
15158 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pth:.78 ith:4 ts:4:0:3
:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15159 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pth:.78 ith:4 ts:4:0:3
3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15160 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:3
:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15161 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15162 ###
15163 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
3:1:2 tdisp:3 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15164 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
:3:1:2 tdisp:4 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:2
15165
15166 ###
15167
15168 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:3
:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15169 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:3
:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15170 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:3
:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15171 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15172 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15173
15174 #vlmex-1 response time steps=4.28=(4.20+4.20+4.00+4.60+4.40+)/5, (fp+FP)/All=(0+0)/25, Err:none
15175
15176
15177 2012.05.30
15178 (1) See 2012.02.14 for void:<n>, mex:<m>, pth:<pth1>:<pth2>:..
15179 > 2012.02.14
15180 > (1) ギブス分布を使う話者識別プログラム（loo4gibbs-sr.c）を作成し、単純ベイズを使う話者識別プログラ
ム（loo4bayes-sr.c）
15181 > も同等の機能を持つように改変した。
15182 > (2) 次のオプション void:<n>, mex:<m>, pth:<pth1>:<pth2>:.. を追加した
15183 > void:0 voi識別器を使わない
15184 > void:1 voi識別器を使う。初期確率はすべての学習機械で均一。
15185 > void:2 voi識別器を使う。初期確率はvoidの学習機械が1(=1-pmin)、他の学習機械は0(=pmint)を使う。
15186 > mex:<m> 学習機械<m>を識別に用いない。m=-1のときはすべて使う。
15187 > pth:<pth2>:.. void:<pth1>:.. テキスト毎に認識のしきい値を設定する。
15188 > (2) text-indepdata.datに対し、loo4bayes-sr で void:2を使って、mex:-1で識別率100%
できた。
15189 > text-indepdata.datに対し、loo4bayes-srでは void:0,1,2 のいづれも、mex:-1で識別率100%、mex:4でこ
れより
15190 > 良い識別率を達成するパラメータは見つかっていない（見つかるかもしれないが…）．
15191
15192 (2) void:0を修正した。gibbs:0でも良くなった!?
15193 修正内容:最後までしきい値に達しなかったらvoidにする。
15194 (3) New PP: see the paper iconip2012speech.pdf
15195 2012.06.06
15196 (1) void:0:[PIrth]  <=void:0 にオプションを追加
15197 最終判断で、max PI >=PIrth であればそのマシンで認識、
15198 max PI <PIrth ならば未登録(m=ns=5)と判断
15199 ==No Good
15200 NG:loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.8 ntxi:10:10 pth:4:0:3:1:
2 tdisp:4 beta:.6 PNr:.8 void:0:0.5 gibbs:1 mex:-1
15201 (2) PNr を PNr[t] とし、text毎に yth[m][t]:=PNr[t]*ymeanP[m][t]+(1.-PNr[t])*ymeanN[m][t] と設定できるよ
うにした。
15202 (3) i<ith では認識判断しないようにした
15203 [1]
```

```
15204 gibbs:0,ith:4
15205 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:3
15206 :1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15207 #vlmex-1 response time steps=4.2=(4.00+4.00+4.40+4.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15208 gibbs:0,ith:10
15209 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:10 ts:4:0:
15210 #vlmex-1 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s3t
15211 4
15212 [2]gibbs:1,ith:4
15213 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:4 ts:4:0:3
15214 #vlmex-1 response time steps=4.52=(4.00+4.20+4.60+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15215 gibbs:1,ith:10
15216 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:10 ts:4:0:
15217 3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1 mex:-1
15218 #vlmex0 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15219 bayes=gibbs:0,ith:4,unreg
15220 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:3
15221 :1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:0 mex:-1
15222 #vlmex0 response time steps=2.2=(4.00+4.00+4.40+4.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15223 #vlmex1 response time steps=4.16=(4.00+4.00+4.40+4.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15224 #vlmex2 response time steps=4.16=(4.00+4.00+4.40+4.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15225 #vlmex3 response time steps=4.28=(4.00+4.00+4.40+4.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15226 #vlmex4 response time steps=4.16=(4.20+4.00+4.40+4.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15227 %4.04+4.04+4.32+4.48
15228 print (4.4*3+4.2*2)/5=4.32
15229 bayes=gibbs:0,ith:4, unreg
15230 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:10 ts:4:0:
15231 3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15232 #vlmex1 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s3t4
15233 #vlmex2 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s3t4
15234 #vlmex3 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:IDm5s3t4
15235 #vlmex4 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:IDm5s3t4
15236 #####
15237 gibbs:1,ith:4,unreg
15238 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:3
15239 :1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15240 #vlmex0 response time steps=4.68=(4.00+4.20+4.40+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15241 #vlmex1 response time steps=4.6=(4.00+4.20+4.40+4.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15242 #vlmex2 response time steps=4.52=(4.00+4.20+4.20+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15243 #vlmex3 response time steps=4.68=(4.00+4.80+4.20+4.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15244 #vlmex4 response time steps=4.24=(4.40+4.00+4.40+4.20+)/5, (fp+FP)/All=(0+0)/25 Err:none
15245 %4.08+4.28+4.04+4.32+6.0
15246 print (4.2*3+4+4.8)/5=4.28
15247 print (4.4*3+4.2*2)/5=4.32
15248 print (6.8+6.4*2+6.2+4.2)/5=6.0
15249 #gibbs:1,ith:10,unreg
15250 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:10 ts:4:0:
15251 3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1 gibbs:1 mex:-1
15252 #vlmex0 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15253 #vlmex1 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15254 #vlmex2 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15255 ######text-independent
15256 #text-independent,bayes=gibbs:0 ith:4,
15257 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:
15258 3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15259 #vlmex-1 response time steps=5.04=(4.60+4.60+5.00+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15260 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:4 ts:4:0:
15261 3:1:2 tdisp:2 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:0 mex:-1
15262 #text-independent,gibbs:0 ith:10,
15263 #text-independent,bayes=gibbs:0 ith:10,
15264 #worst case???
15265 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:10 ts:4:0:
15266 :3:1:2 tdisp:4 beta:0.6 PNr:.7:.7:.7:.99 void:1 mex:-1
15267 #vlmex-1 response time steps=10=(10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+4)/25 Err:IDm5s0t
15268 0 IDm5s1t4 IDm2s3t1 IDm5s4t4
```

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15269 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
15270 3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15271 ##
15272 #text-independent,bayes=gibbs:0 ith:4, unreg
15273 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
15274 3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:0
15275 #vlmex0 response time steps=4.96=(5.20+4.00+4.80+5.00+5.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
     =mex:1 tdisp:3 =tag1
15276 #vlmex2 response time steps=5.16=(4.60+4.20+5.60+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15277 #vlmex3 response time steps=5.12=(4.60+4.60+5.00+5.20+6.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15278 #vlmex4 response time steps=4.48=(4.60+4.00+4.20+5.20+7.40+)/5, (fp+FP)/All=(1+0)/25 Err:IDm0s1t3t
     =mex:4 tdisp:4 =tag2
15279 #                                              4.72+4.08+4.72+5.2+6.2
15280 print (5.2+4.6*4)/5=4.72
15281 print (4*3+4.2*2)/5=4.08
15282 print (4.8+4.6+5+5+4.2)/5=4.72
15283 print (5+5.2+5.6+5.2+5)/5=5.2
15284 print (5.8+7.4+6.4+6.8+4.6)/5=6.2
15285 ##############################
15286 #text-independent,gibbs:1 ith:4, ureg
15287 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:4 ts:4:0:
15288 3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:0
15289 #vlmex0 response time steps=6.04=(6.20+4.20+5.60+6.60+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15290 #vlmex1 response time steps=6.04=(5.00+4.20+4.80+7.40+8.80+)/5, (fp+FP)/All=(0+0)/25 Err:none
15291 #vlmex2 response time steps=5.68=(5.20+4.60+6.40+5.80+6.40+)/5, (fp+FP)/All=(0+0)/25 Err:none
15292 #vlmex3 response time steps=5.76=(5.60+4.60+6.20+5.40+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15293 #vlmex4 response time steps=5.52=(5.60+4.20+4.20+6.00+7.60+)/5, (fp+FP)/All=(0+0)/25 Err:none
15294 print (6.2+5+5.2+5.6*2)/5    =5.52
15295 print (4.2*3+4.6+4)/5        =4.24
15296 print (5.6+4.8+6.4+6.2+4.2)/5 =5.44
15297 print (6.6+7.4+5.8+5.4+6)/5   =6.24
15298 print (7.6+8.8+4.7.6*2)/5     =7.60
15299 ##################
15300 #text-independent,bayes=gibbs:0 ith:10, unreg
15301 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.94 ith:10 ts:4:0
     :3:1:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:0
15302 #vlmex0 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm2s3t1
     IDm5s4t4
15303 #vlmex1 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+3)/25 Err:IDm3s0t3
     IDm2s3t1 IDm5s4t4?worst
15304 #vlmex2 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+2)/25 Err:IDm2s3t1
     IDm5s4t4
15305 #vlmex3 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+3)/25 Err:IDm2s3t1
     IDm5s4t4 IDm3s3t1
15306 #vlmex4 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+2)/25 Err:none
15307 #text-independent,gibbs:1 ith:10, unreg
15308 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:10 ts:4:0
     :3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:0
15309 #vlmex0 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15310 #vlmex1 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15311 #vlmex2 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15312 #vlmex3 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15313 #vlmex4 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+0)/25 Err:none
15314 #corresponding worstcase?
15315 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:10 ts:4:0
15316 :3:1:2 tdisp:4 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:2
15317 #vlmex2 response time steps=10=(10.00+10.00+10.00+10.00+10.00+)/5, (fp+FP)/All=(0+1)/25 Err:IDm5s0t
     IDm5s1t4 IDm5s2t3 IDm5s4t4
     :3:1:2 tdisp:4 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:0 mex:2
15318 ##############
15319 ###dont believe so much?? below
15320 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:
15321 #[1]loo4gibbs-sr fn:../mineishi/text-depdata.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4
15322 :0:3:1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 mex:-1
15323 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 pmin:0.05 pth:.78 ith:4 ts:4:0
15324 :3:1:2 tdisp:2 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:0 mex:-1
15325 #vlmex0 response time steps=4.96=(5.2+  4  +4.8  +5   +4.75+)/5 (fp+FP)/All=(0+0)/25 Err:none
15326 #vlmex1 response time steps=5.2 =(4.6+ 4.2 +4.6 +5.25+6.75+)/5 (fp+FP)/All=(1+0)/25 Err:IDm0s1t3 <==
     mex:1 tdisp:3 ==tag1
15327 #vlmex2 response time steps=5.16=(4.6+ 4.5 +5.5+)/5 (fp+FP)/All=(0+0)/25 Err:none
15328 #vlmex3 response time steps=5.12=(4.6+ 5.2 +6+)/5 (fp+FP)/All=(0+0)/25 Err:none
15329 #vlmex4 response time steps=4.48=(4.6+  4  +4.2+4.5+)/5 (fp+FP)/All=(1+0)/25 Err:IDm5s0t4 <==m
     ex:4 tdisp:4 =tag2
15330 #                                             4.72+ 4.08+4.72+4.99+5.5
15331 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 pmin:0.05 pth:.94 ith:4 ts:4:0:3
     :1:2 tdisp:2 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
```

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15332  #vlmex-1 response time steps=4.2=(4.00+4.00+4.00+4.40+4.60+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15333
15334  #vlmex0 response time steps=4.2 =(4.00+4.00+4.00+4.40+4.60+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15335  #vlmex1 response time steps=4.16=(4.00+4.00+4.00+4.40+4.40+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15336  #vlmex2 response time steps=4.16=(4.00+4.00+4.00+4.20+4.60+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15337  #vlmex3 response time steps=4.28=(4.00+4.40+4.20+4.60+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15338  #vlmex4 response time steps=4.16=(4.20+4.00+4.00+4.40+4.32+4.52)/5,  (fp+FP)/All=(0+0)/25  Err:none
15339                                       4.04+4.08+4.04+4.32+4.52
15340  [2] use for ICONIP2012 ?
15341  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:
15342  3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15343  #vlmex-1 response time steps=5.8=(5.2 +4.2+5.4+5.75+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15344
15345  #vlmex0 response time steps=6.04=(5.25+4.2 +4.5+6.6+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15346  #vlmex1 response time steps=6.04=(5   +4.2 +4.8+6.75+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none    <==mex:1
15347  tdisp:3 == see tag1 above
15348  #vlmex2 response time steps=5.68=(5.2 +4.6  +5.5+4.75+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15349  #vlmex3 response time steps=5.76=(4.5 +4  +5.25+4.25+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none  <==mex:4 td
       isp:4 == see tag2 above
15350  #vlmex4 response time steps=5.52=(4.5 +4.2 +4.2+6+4+)/5,  (fp+FP)/All=(0+0)/25  Err:none
                                          4.89
15351  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:3
15352  :1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15353  #vlmex-1 response time steps=4.52=(4+4.2+4+4 6+4.75+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15354  #vlmex0 response time steps=4.68=(4.00+4.20+4.00+4.40+4.67+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15355  #vlmex1 response time steps=4.6 =(4.00+4.20+4.00+4.00+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15356  #vlmex2 response time steps=4.52=(4.00+4.20+4.20+4.20+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15357  #vlmex3 response time steps=4.68=(4.00+4.80+4.20+4.20+5.25+)/5,  (fp+FP)/All=(0+0)/25  Err:none
15358  #vlmex4 response time steps=4.24=(4.40+4.20+4.00+4.40+4.20+)/5,  (fp+FP)/All=(0+0)/25  Err:none
                                          4.08+4.28+4.04+4.32+4.724
15359
15360                                          4.89
15361  ###do not believe below
15362  [1] use for ICONIP2012 ?
15363  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:
15364  3:1:2 tdisp:3 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15365  #vlmex-1 mean response time steps=5.8 (fp+FP)/All=(0+0)/25  Err:none
15366  #vlmex0 mean response time steps=6.04 (fp+FP)/All=(0+0)/25  Err:none  <== see tag1 below
15367  #vlmex1 mean response time steps=6.04 (fp+FP)/All=(0+0)/25  Err:none  <==for iconip2012 use this; tag
       2 mex:2 tdisp:2
15368  #vlmex2 mean response time steps=5.76 (fp+FP)/All=(0+0)/25  Err:none
15369  #vlmex3 mean response time steps=5.52 (fp+FP)/All=(0+0)/25  Err:none
15370  mean time steps
15371  #vlmex4 mean response time steps=<t4>5.25<t0>4.2<t3>4.5<t1>6.6<t2>4
15372  #vlmex0 mean response time steps=<t4>5<t0>4.2<t3>4.8<t1>6.75<t2>4
15373  #vlmex1 mean response time steps=<t4>5.2<t0>4.6<t3>5.5<t1>4.75<t2>4
15374  #vlmex2 mean response time steps=<t4>4.5<t0>4<t3>5.25<t1>4.25<t2>4
15375  #vlmex3 mean response time steps=<t4>4.5<t0>4.2<t3>4.2<t1>6<t2>4
15376  #vlmex0-4                                    4.89   4.24   4.85  5.67 4
15377
15378  pth=1.0
15379  #vlmex-1 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15380  #vlmex0 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15381  逆温度beta が大きい(beta=3) と最終決定は NG になる, 小さいと(10e-15はダメ)  ,1e-14<beta=<20 範囲で OK
15382  pth=1.0; beta=3;
15383  #vlmex-1 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15384  #vlmex0 mean response time steps=10 (Fp+FP)/All=(1+0)/25  Err:none
15385  #vlmex1 mean response time steps=10 (Fp+FP)/All=(2+0)/25  Err:none
15386  #vlmex2 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15387  #vlmex3 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15388  pth=1.0
15389  pth=1.0; beta=1e-15;
15390  #vlmex-1 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15391  #vlmex0 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15392  #vlmex1 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15393  #vlmex2 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none
15394  #vlmex3 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none  IDm1s2t2
15395  #vlmex4 mean response time steps=10 (Fp+FP)/All=(0+0)/25  Err:none  IDm2s3t3
15396
15397  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:
15398  3:1:2 tdisp:4 beta:2. PNr:.8:.8:.8:.99 void:1:0.4 gibbs:1 mex:-1
15399  #vlmex-1 mean response time steps=6.36 (Fp+FP)/All=(0+0)/25  Err:none  IDm1s2t2
15400  #vlmex0 mean response time steps=6.56 (Fp+FP)/All=(0+0)/25  Err:none
15401  #vlmex1 mean response time steps=6.04 (Fp+FP)/All=(0+0)/25  Err:none
15402  #vlmex2 mean response time steps=6.08 (Fp+FP)/All=(0+0)/25  Err:none
15403  #vlmex3 mean response time steps=5.64 (Fp+FP)/All=(3+0)/25  Err:none  IDm2s3t3 IDm5s3t4
15404  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntxi:10:10 pmin:0.05 pth:.78 ith:4 ts:4:0:3
15405  :1:2 tdisp:4 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
```

```
15406  #vlmex-1 mean response time steps=4.52 (Fp+FP)/All=(0+0)/25  Err:none
15407  #vlmex0 mean response time steps=4.68 (Fp+FP)/All=(0+0)/25  Err:none
15408  #vlmex1 mean response time steps=4.6 (Fp+FP)/All=(0+0)/25  Err:none
15409  #vlmex1 mean response time steps=4.52 (Fp+FP)/All=(0+0)/25  Err:none
15410  #vlmex2 mean response time steps=4.68 (Fp+FP)/All=(0+0)/25  Err:none
15411  #vlmex3 mean response time steps=4.24 (Fp+FP)/All=(0+0)/25  Err:none
15412
15413  [2] Original Bayesian
15414  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
15415  3:1:2 tdisp:3 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15416  #vlmex-1 mean response time steps=5.04 (Fp+FP)/All=(0+0)/25  Err:none
15417  #vlmex0 mean response time steps=4.96 (Fp+FP)/All=(0+0)/25  Err:none
15418  #vlmex1 mean response time steps=5.2 (Fp+FP)/All=(0+1)/25  Err:IDm0s1t3  <=== tag1
15419  #vlmex2 mean response time steps=5.32 (Fp+FP)/All=(0+1)/25  Err:IDm1s2t2  <==use this; tag2 mex:2 tdi
       sp:2
15420  #vlmex3 mean response time steps=5.12 (Fp+FP)/All=(0+0)/25  Err:none
15421  #vlmex4 mean response time steps=4.6 (Fp+FP)/All=(0+0)/25  Err:none
15422  men time step[]
15423  #vlmex0 mean time steps:<t4>5.2<t0>4<t3>4.8<t1>5<t2>4.75
15424  #vlmex1 mean time steps:<t4>4.6<t0>4.2<t3>4.6<t1>5.25<t2>6.75
15425  #vlmex2 mean time steps:<t4>4.6<t0>4<t3>5<t1>4.5<t2>5.5
15426  #vlmex3 mean time steps:<t4>4.6<t0>4<t3>4.2<t1>5<t2>6
15427  #vlmex4 mean time steps:<t4>4.6<t0>4<t3>4.2<t1>5.25<t2>5.2
                                4.72   4.08   4.72   4.99  5.64
15428  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:1.0 ith:4 ts:4:0:
15429  3:1:2 tdisp:4 beta:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15430  #vlmex-1 mean response time steps=10 (Fp+FP)/All=(4+0)/25  Err:IDm5s1t4 IDm2s3t1 IDm5s4t4
15431  #vlmex0 mean response time steps=10 (Fp+FP)/All=(2+0)/25  Err:IDm5s0t0 IDm5s4t4
15432  #vlmex1 mean response time steps=10 (Fp+FP)/All=(3+0)/25  Err:IDm2s3t1 IDm5s4t4
15433  #vlmex2 mean response time steps=10 (Fp+FP)/All=(4+0)/25  Err:IDm5s1t0 IDm5s4t4
15434  #vlmex3 mean response time steps=10 (Fp+FP)/All=(2+0)/25  Err:IDm2s3t1 IDm5s4t4
15435  #vlmex4 mean response time steps=10 (Fp+FP)/All=(3+0)/25  Err:IDm5s0t0 IDm2s3t1
15436  loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:3
15437  :1:2 tdisp:0.6 PNr:.7:.7:.7:.99 void:1 gibbs:0 mex:-1
15438  #vlmex-1 mean response time steps=4.2 (Fp+FP)/All=(0+0)/25  Err:none
15439  #vlmex0 mean response time steps=4.16 (Fp+FP)/All=(0+0)/25  Err:none
15440  #vlmex1 mean response time steps=4.16 (Fp+FP)/All=(0+0)/25  Err:none
15441  #vlmex2 mean response time steps=4.16 (Fp+FP)/All=(0+0)/25  Err:none
15442
15443  ###########
15444  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
15445  3:1:2 tdisp:4 beta:0.6 PNr:.7 void:1 gibbs:0 mex:-1
15446  #vlmex-1 mean response time steps=4.72 (Fp+FP)/All=(0+0)/25  Err:none
15447  #vlmex0 mean response time steps=4.84 (Fp+FP)/All=(0+2)/25  Err:IDm0s1t3 IDm2s2t2
15448  #vlmex1 mean response time steps=4.84 (Fp+FP)/All=(0+1)/25  Err:IDm2s3t4
15449  #vlmex2 mean response time steps=4.92 (Fp+FP)/All=(0+1)/25  Err:IDm2s2t2
15450  #vlmex3 mean response time steps=4.88 (Fp+FP)/All=(0+1)/25  Err:IDm2s3t4
15451  #vlmex4 mean response time steps=4.44 (Fp+FP)/All=(0+0)/25  Err:none
15452  #vlmex4 mean response time steps=4.6 (Fp+FP)/All=(0+0)/25  Err:none
15453  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:
15454  3:1:2 tdisp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1
15455  #vlmex-1 mean response time steps=4.72 (Fp+FP)/All=(0+0)/25  Err:none
15456  #vlmex0 mean response time steps=4.8 (Fp+FP)/All=(0+0)/25  Err:none
15457  #vlmex1 mean response time steps=5 (Fp+FP)/All=(0+1)/25  Err:IDm2s1t4
15458  #vlmex2 mean response time steps=5.2 (Fp+FP)/All=(0+1)/25  Err:IDm1s2t2
15459  #vlmex3 mean response time steps=4.88 (Fp+FP)/All=(0+1)/25  Err:IDm2s3t4
15460  #vlmex4 mean response time steps=4.44 (Fp+FP)/All=(0+1)/25  Err:IDm2s3t4
15461  pth:1.0
15462  #vlmex-1 mean response time steps=10 (Fp+FP)/All=(4+0)/25  Err:IDm5s0t0 IDm3s1t4 IDm2s3t1
15463  #vlmex0 mean response time steps=10 (Fp+FP)/All=(3+0)/25  Err:IDm5s1t0 IDm3s3t4 IDm2s3t1
15464  #vlmex1 mean response time steps=10 (Fp+FP)/All=(3+0)/25  Err:IDm3s1t4 IDm2s3t1
15465  #vlmex2 mean response time steps=10 (Fp+FP)/All=(3+0)/25  Err:IDm5s1t0 IDm2s2t2
15466  #vlmex3 mean response time steps=10 (Fp+FP)/All=(2+0)/25  Err:IDm5s1t0 IDm5s3t4
15467  #vlmex4 mean response time steps=10 (Fp+FP)/All=(4+0)/25  Err:IDm5s0t0 IDm2s3t1
15468  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.94 ith:4 ts:4:0:1:2
15469  tdisp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1
15470  #vlmex-1 mean response time steps=3.52 (Fp+FP)/All=(0+0)/25  Err:none
15471  #vlmex0 mean response time steps=3.6 (Fp+FP)/All=(0+0)/25  Err:none
15472  #vlmex1 mean response time steps=3.56 (Fp+FP)/All=(0+2)/25  Err:IDm0s1t3 IDm2s2t2
15473  #vlmex2 mean response time steps=4.08 (Fp+FP)/All=(1+0)/25  Err:IDm2s3t4
15474  #vlmex3 mean response time steps=3.52 (Fp+FP)/All=(0+1)/25  Err:IDm2s3t4
15475  #vlmex4 mean response time steps=3.56 (Fp+FP)/All=(0+0)/25  Err:none
15476
15477
15478  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.68 ith:4 ts:4:0:
15479  3:1:2 tdisp:4 beta:2. PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15480  #vlmex-1 mean response time steps=7.04 (Fp+FP)/All=(0+0)/25  Err:none
```

```
15480  #vlmex0 mean response time steps=7.12 (Fp+fP)/All=(0+0)/25 Err:none
15481  #vlmex1 mean response time steps=7.4  (Fp+fP)/All=(0+0)/25 Err:none
15482  #vlmex2 mean response time steps=7.36 (Fp+fP)/All=(0+0)/25 Err:none
15483  #vlmex3 mean response time steps=6.8  (Fp+fP)/All=(0+0)/25 Err:none
15484  #vlmex4 mean response time steps=6.84 (Fp+fP)/All=(0+0)/25 Err:none
15485
15486
15487  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.65 ith:4 ts:4:0:
15488  3:1:2 tdisp:4 beta:.9 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15489  #vlmex-1 mean response time steps=7.52 (Fp+fP)/All=(0+0)/25 Err:none
15490  #vlmex0 mean response time steps=7.36 (Fp+fP)/All=(0+0)/25 Err:none
15491  #vlmex1 mean response time steps=7.68 (Fp+fP)/All=(0+0)/25 Err:none
15492  #vlmex2 mean response time steps=7.8  (Fp+fP)/All=(0+0)/25 Err:none
15493  #vlmex3 mean response time steps=7.28 (Fp+fP)/All=(0+0)/25 Err:none
15494  #vlmex4 mean response time steps=7.44 (Fp+fP)/All=(0+0)/25 Err:none
15495
15496  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.65 ith:4 ts:4:0:
15497  3:1:2 tdisp:4 beta:.8 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15498  #vlmex0 mean response time steps=7.6  (Fp+fP)/All=(0+0)/25 Err:none
15499  #vlmex1 mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 Err:none
15500  #vlmex2 mean response time steps=7.92 (Fp+fP)/All=(0+0)/25 Err:none
15501  #vlmex3 mean response time steps=7.44 (Fp+fP)/All=(0+0)/25 Err:none
15502  #vlmex4 mean response time steps=7.76 (Fp+fP)/All=(0+0)/25 Err:none
15503
15504  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.61 ith:4 ts:4:0:
15505  3:1:2 tdisp:4 beta:.7 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15506  #vlmex-1 mean response time steps=7.64 (Fp+fP)/All=(0+0)/25 Err:none
15507  #vlmex0 mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 Err:none
15508  #vlmex1 mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 Err:none
15509  #vlmex2 mean response time steps=7.96 (Fp+fP)/All=(0+0)/25 Err:none
15510  #vlmex3 mean response time steps=7.72 (Fp+fP)/All=(0+0)/25 Err:none
15511  #vlmex4 mean response time steps=7.72 (Fp+fP)/All=(0+0)/25 Err:none
15512
15513  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.55 ith:4 ts:4:0:
15514  3:1:2 tdisp:4 beta:.6 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15515  #mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15516  #mean response time steps=8.12 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15517  #mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15518  #mean response time steps=7.72 (Fp+fP)/All=(0+0)/25 vlmex3 Err:
15519  #mean response time steps=7.72 (Fp+fP)/All=(0+0)/25 vlmex4 Err:
15520  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.5 ith:4 ts:4:0:3
15521  :1:2 tdisp:4 beta:.5 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15522  #mean response time steps=8.12 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15523  #mean response time steps=7.88 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15524  #mean response time steps=8.24 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15525  #mean response time steps=7.84 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15526  #mean response time steps=7.76 (Fp+fP)/All=(0+0)/25 vlmex3 Err:
15527
15528  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.5 ith:4 ts:4:0:
15529  3:1:2 tdisp:4 beta:.4 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15530  #mean response time steps=8.92 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15531  #mean response time steps=8.12 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15532  #mean response time steps=8.56 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15533  #mean response time steps=7.84 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15534  #mean response time steps=8.16 (Fp+fP)/All=(0+0)/25 vlmex3 Err:
15535
15536
15537  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.45 ith:4 ts:4:0:3
15538  :1:2 tdisp:4 beta:.4 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15539  #mean response time steps=9.28 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15540  #mean response time steps=8.84 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15541  #mean response time steps=9.08 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15542  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.3 ts:4:0:3:1:2 t
15543  disp:4 beta:.1 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1     same for all mex0,1,2,3,4
15544  #mean response time steps=9.16 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15545  #mean response time steps=9.24 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15546  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.55 ts:4:0:3:1:2
15547  tdisp:4 beta:.4 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15548  #mean response time steps=8.92 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15549  #mean response time steps=8.56 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15550  #mean response time steps=8.56 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15551  #mean response time steps=9.28 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15552  #mean response time steps=9.28 (Fp+fP)/All=(0+0)/25 vlmex3 Err:
```

```
15553  #mean response time steps=8.92 (Fp+fP)/All=(0+0)/25 vlmex2 Err:
15554  #mean response time steps=8.92 (Fp+fP)/All=(0+0)/25 vlmex4 Err:none
15555  #mean response time steps=8.92 (Fp+fP)/All=(0+0)/25 vlmex4 Err:
15556  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.3 ts:4:0:3:1:2 t
15557  disp:4 beta:.2 PNr:.7:.7:.7:.99 void:1:0.4 gibbs:1 mex:-1
15558  #mean response time steps=8.2 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15559
15560
15561  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:.94 ts:4:0:3:1:2
15562  tdisp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1
15563  #mean response time steps=3.4  (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15564  #mean response time steps=3.52 (Fp+fP)/All=(0+0)/25 vlmex1 Err:
15565  #mean response time steps=4.04 (Fp+fP)/All=(1+0)/25 vlmex2 Err:IDm0s1t3 IDm2s1t4
15566  #mean response time steps=3.44 (Fp+fP)/All=(0+0)/25 vlmex3 Err:IDm1s1t2t2
15567  #mean response time steps=3.52 (Fp+fP)/All=(0+0)/25 vlmex4 Err:IDm2s3t4
15568  #mean response time steps=3.52 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15569  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.99 ts:4:0:3:1:2
15570  tdisp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1   保守的に最後(T_th=10)に認識するため pth=0.99にしてもダメ
15571  上のvlmex1のErrを除くため、PNr:.8:.8:.8:.99:.99とすると下の様になりダメ！
15572  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.94 ts:4:0:3:1:2
15573  tdisp:4 beta:0.6 PNr:.8:.8:.8:.99:.99 void:1 gibbs:0 mex:1
15574  #mean response time steps=4.56 (Fp+fP)/All=(1+0)/25 vlmex-1 Err:IDm5s1t3
15575  #mean response time steps=4.12 (Fp+fP)/All=(1+0)/25 vlmex0 Err:IDm5s1t3
15576  #mean response time steps=4.76 (Fp+fP)/All=(1+0)/25 vlmex1 Err:
15577  #mean response time steps=5.08 (Fp+fP)/All=(2+0)/25 vlmex2 Err:IDm5s1t3 IDml5s2t2
15578  #mean response time steps=4.72 (Fp+fP)/All=(1+0)/25 vlmex3 Err:IDm5s1t3
15579  #mean response time steps=4.28 (Fp+fP)/All=(1+0)/25 vlmex4 Err:IDm5s1t3
15580  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:.94 ts:4:0:3:1:2 t
15581  disp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1
15582  #mean response time steps=3.48 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15583  #mean response time steps=3.4  (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15584  #mean response time steps=3.48 (Fp+fP)/All=(0+2)/25 vlmex1 Err:IDm0s1t3 IDm2s2t3
15585  #mean response time steps=3.76 (Fp+fP)/All=(1+0)/25 vlmex2 Err:IDm1s2t3
15586  #mean response time steps=3.28 (Fp+fP)/All=(1+0)/25 vlmex3 Err:IDm2s3t4
15587  #mean response time steps=3.52 (Fp+fP)/All=(1+0)/25 vlmex4 Err:
15588  2012.06.05
15589  loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05
15590  disp:4 beta:.6 PNr:.8 void:1 gibbs:1 mex:-1
15591  loo4gibbs-sr:c L242 if(s==mex) continue://do not use speech s=mex(void).//check
15592  v1*m1s1t3^1:1:6 L149 1:48 0:36 1:41 1:43 1:43 0:39 0:35 1:36 0:34 <==mex:-1
15593  v1*m1s1t3^1:1:6 0:16 0:16 1:38 1:41 v1 m5s1t4^2:16 1:44 0:26 1:30 0:22 0:1
15594  //coment-out L242    if(s==mex)   continue://do not use speech s=mex(void).//check =use this from
15595  now 2012.06.06
15596  mex:1    v1 m2s1t4^2:16 0:16 0:16 1:33 1:38 1:41 v1 m5s1t4^2:16 0:05 0:05 0:05 0:1
15597  8 0:15
15598  mex:-1 v1 m2s1t4^2:16 0:10 0:09 1:12 0:11 1:17 1:21 v1 m5s1t4^2:16 0:05 0:05 0:05 0:0
15599  5 0:05  v1*m1s1t4^2:16 1:61 1:61 1:65 1:63 0:54 1:57 0:50
15600  ==>
15601  [1"]loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:7 pmin:.05 pth:.94 ts:4:0:3:1
15602  :2 tdisp:4 beta:0.6 PNr:.7 void:1 gibbs:0 mex:-1
15603  #mean response time steps=3.4  (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15604  #mean response time steps=3.48 (Fp+fP)/All=(0+2)/25 vlmex1 Err:m0s1t3 m4s1t3
15605  #mean response time steps=3.76 (Fp+fP)/All=(1+0)/25 vlmex2 Err:m1s2t3
15606  #mean response time steps=3.28 (Fp+fP)/All=(1+0)/25 vlmex3 Err:m2s3t4
15607  #mean response time steps=3.52 (Fp+fP)/All=(1+0)/25 vlmex4 Err:
15608  [3"]loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:7 pmin:.05 pth:.7 ts:4:0:3:1:
15609  2 tdisp:4 beta:0.6 PNr:.7 void:1 gibbs:0 mex:-1
15610  #mean response time steps=5.56 (Fp+fP)/All=(0+0)/25 vlmex-1 Err:
15611  #mean response time steps=5.56 (Fp+fP)/All=(0+0)/25 vlmex0 Err:
15612  #mean response time steps=3.4  (Fp+fP)/All=(0+0)/25 vlmex1 Err:m0s3t3
15613  #mean response time steps=5.44 (Fp+fP)/All=(1+1)/25 vlmex2 Err:m0s3t3
15614  #mean response time steps=5.56 (Fp+fP)/All=(2+0)/25 vlmex3 Err:m2s3t3 m2s3t4
15615  #mean response time steps=6.04 (Fp+fP)/All=(0+0)/25 vlmex4 Err:
15616  #mean response time steps=7.84 (Fp+fP)/All=(0+0)/25 vlmex0 Err:      <==ntxi:10:10
15617  #mean response time steps=7.48 (Fp+fP)/All=(0+1)/25 vlmex1 Err:m0s1t4     <=pth:.94
15618  #mean response time steps=7.84 (Fp+fP)/All=(0+0)/25 vlmex2 Err:m1s2t3
15619  #mean response time steps=8.56 (Fp+fP)/All=(0+0)/25 vlmex3 Err:m2s3t4
15620  #mean response time steps=7.84 (Fp+fP)/All=(1+0)/25 vlmex3 Err:m2s3t4
```

```
15624 #mean response time steps=8.56 (Fp+fP)/All=(0+0)/25 v1mex4 Err:
15625 ==> pth:.8
15626 #mean response time steps=10 (Fp+fP)/All=(1+0)/25 v1mex1 Err:m2s1t4
15627     v1 m2s1t4^2:16 0:08 0:14 1:28 0:25 1:32 1:37 1:40 1:42 0:39 0:36>v1 m5s1t4^2:16 0:05 1:19 0:15 1
:21 0:17 0:14 0:13 0:11 1:14 0:13
15628 #mean response time steps=10 (Fp+fP)/All=(1+0)/25 v1mex3 Err:m2s3t4
15629     v1 m2s3t4^2:16 0:15 1:40 1:57 0:49 1:52 1:54 0:49 0:46
15630 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:10 pmin:0.05 pth:.8 ts:4:0:3:1:2 t
disp:4 beta:.6 PNr:.9 void:1 mex:1
15631 #mean response time steps=10 (Fp+fP)/All=(0+0)/25 v1mex-1 Err:
15632 #mean response time steps=10 (Fp+fP)/All=(0+0)/25 v1mex0 Err:
15633 #mean response time steps=10 (Fp+fP)/All=(1+0)/25 v1mex1 Err:m2s1t4  v1 m2s1t4^2:16 0:16 0:16 1:29 0:
25 1:32 1:36 1:39 1:42 0:39 0:35
15634 #mean response time steps=10 (Fp+fP)/All=(0+0)/25 v1mex2 Err:
15635 #mean response time steps=10 (Fp+fP)/All=(0+0)/25 v1mex3 Err:
15636
15637
15638
15639
15640
15641 2012.06.04-
以下の[1],[2],[3]が理論に合う結果？
15642 [1]のベイズでは、識別しきい値に達すると全て識別できるが、1人ずつ除くと誤認識する。そこでしきい値を
大きくして
15643 最後に最大値で識別するようにすると、[2]の誤認識が起こる。 (ntxi:10:8にすると ok?)[3]のGibbsではうまく
いってい る。
15644 bag of loo4gibbs-sr for void:0
15645 [1]loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.94 ts:4:0:3:1:
2 tdisp:4 beta:0.6 PNr:.8 void:0 gibbs:0 mex:-1
15646 (cf.ICONIP2011? loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:7  pmin:0.05 pth:0
.95 ts:4:0:3:1:2 tdisp:4)
15647 #mean response time steps=3.28 (Fp+fP)/All=(0+0)/25 v0mex-1
15648 #mean response time steps=3.56 (Fp+fP)/All=(0+3)/25 v0mex0
15649 #mean response time steps=3.8 (Fp+fP)/All=(0+2)/25 v0mex1
15650 #mean response time steps=3.72 (Fp+fP)/All=(0+2)/25 v0mex2
15651 #mean response time steps=3.48 (Fp+fP)/All=(0+1)/25 v0mex3
15652 #mean response time steps=4 (Fp+fP)/All=(0+2)/25 v0mex4
15653 [2]loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.96 ts:4:0:3:1:
2 tdisp:4 beta:0.6 PNr:.8 void:0 gibbs:0 mex:-1
15654 #mean response time steps=7 (Fp+fP)/All=(0+0)/25 v0mex-1
1:93 1:94 1:94 0:41
15655 #mean response time steps=7 (Fp+fP)/All=(1+0)/25 v0mex0 ==> v0*m1s1t3^1:20 1:73 1:92 0:60
15656 #mean response time steps=7 (Fp+fP)/All=(0+0)/25 v0mex1
15657 #mean response time steps=7 (Fp+fP)/All=(0+0)/25 v0mex2
15658 #mean response time steps=7 (Fp+fP)/All=(0+0)/25 v0mex3
15659 [3]loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:.8 ts:4:0:3:1:2
tdisp:4 beta:.6 PNr:.8 void:0 gibbs:1 mex:-1
15660 #mean response time steps=6.28 (Fp+fP)/All=(0+0)/25 v0mex0
15661 #mean response time steps=7 (Fp+fP)/All=(0+0)/25 v0mex1
15662 #mean response time steps=6.76 (Fp+fP)/All=(0+0)/25 v0mex2
15663 #mean response time steps=6.76 (Fp+fP)/All=(0+1)/25 v0mex3
15664 #mean response time steps=6.76 (Fp+fP)/All=(0+0)/25 v0mex4
15665 [1']loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.94 ts:4:0:3:1
:2 tdisp:4 beta:0.6 PNr:.8 void:0 gibbs:0 mex:-1
15666 #mean response time steps=1.8 (Fp+fP)/All=(0+0)/25 v0mex-1
15667 #mean response time steps=2.96 (Fp+fP)/All=(0+0)/25 v0mex0
15668 #mean response time steps=1.8 (Fp+fP)/All=(0+0)/25 v0mex1
15669 #mean response time steps=2.48 (Fp+fP)/All=(0+2)/25 v0mex2
15670 #mean response time steps=2.92 (Fp+fP)/All=(0+0)/25 v0mex3
15671 #mean response time steps=2.48 (Fp+fP)/All=(0+1)/25 v0mex4
15672 [2']loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.94 ts:4:0:3:1
:2 tdisp:4 beta:0.6 PNr:.8 void:0 gibbs:0 mex:-1
15673 [3']loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.94 ts:4:0:3:1:2 td
tdisp:.6 PNr:.8 void:0 gibbs:1 mex:-1
15674 #mean response time steps=5.08 (Fp+fP)/All=(0+0)/25 v0mex-1
15675 #mean response time steps=5.8 (Fp+fP)/All=(0+0)/25 v0mex0
15676 #mean response time steps=4.84 (Fp+fP)/All=(0+2)/25 v0mex1
15677 #mean response time steps=4.6 (Fp+fP)/All=(0+0)/25 v0mex2
15678 #mean response time steps=4.6 (Fp+fP)/All=(0+0)/25 v0mex3
15679 #mean response time steps=5.44 (Fp+fP)/All=(0+0)/25 v0mex4
15680
15681
15682 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 void:0 gibbs:0 mex:-1
isp:4 beta:.6 PNr:.6 void:0 gibbs:0 mex:-1
15683 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:2 td
isp:4 beta:.6 PNr:.8 void:0 gibbs:0 mex:-1  <= all mex=-1,0,1,2,3,4
15684 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 void:0 gibbs:1 mex:-1
isp:4 beta:.6 PNr:.8 void:0 gibbs:1 mex:-1
15685 #mean response time steps=5.08 (Fp+fP)/All=(0+0)/25 v0mex-1
15686 #mean response time steps=5.32 (Fp+fP)/All=(0+3)/25 v0mex0
15687 #mean response time steps=4.2 (Fp+fP)/All=(0+0)/25 v0mex1
15688 #mean response time steps=5.08 (Fp+fP)/All=(0+0)/25 v0mex2
15689 #mean response time steps=4.84 (Fp+fP)/All=(0+2)/25 v0mex3
15690 #mean response time steps=5.44 (Fp+fP)/All=(0+0)/25 v0mex4
15691 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:2 td
```

```
      isp:4 beta:.6 PNr:.8 void:1 gibbs:1 mex:0
15692 #mean response time steps=5.8 (Fp+fP)/All=(0+0)/25 v1mex-1
15693 #mean response time steps=5.8 (Fp+fP)/All=(1+0)/25 v1mex0
15694 #mean response time steps=6.04 (Fp+fP)/All=(1+0)/25 v1mex1
15695 #mean response time steps=6.52 (Fp+fP)/All=(1+0)/25 v1mex1
15696 #mean response time steps=6.04 (Fp+fP)/All=(1+0)/25 v1mex2
15697 #mean response time steps=6.12 (Fp+fP)/All=(1+0)/25 v1mex3
15698 #mean response time steps=6.04 (Fp+fP)/All=(1+0)/25 v1mex4
15699
15700 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.6 ts:4:0:3:1:2 td
15701 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:2 td
15702
15703 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:2 td
15704 #mean response time steps=5.8 (Fp+fP)/All=(0+0)/25 v1mex-1
15705 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.96 ts:4:0:3:1:2 t
disp:4 beta:0.6 PNr:.8 void:0 gibbs:0 mex:-1
15706 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.96 ts:4:0:3:1:2 t
disp:4 beta:0.6 PNr:.8 void:1 gibbs:0 mex:-1
15707 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.98 ts:4:0:3:1:2 t
disp:4 beta:0.6 PNr:.5 void:0 gibbs:0 mex:-1
15708 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.97 ts:4:0:3:1:2 t
disp:4 beta:0.6 PNr:.5 void:0 gibbs:0 mex:-1
15709 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.8 ts:4:0:3:1:2 t
isp:4 beta:.6 PNr:.8 void:0 gibbs:1 mex:-1
15710 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7 pmin:0.05 pth:.7 ts:4:0:3:1:2 td
isp:4 beta:.6 PNr:.8 void:0 gibbs:1 mex:-1
15711
15712 ## donot belive below
15713
15714 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.9
15715 void:1 mex:4 tdisp:4 beta:0.6 PNr:.9
15715 Err:Case21:[3]<t1> ID(5)!=s(1),mex0
15716 Err:Case21:[4]<t2> ID(2)!=ns(5),mex1
15717 #v1mex0:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
:0.000(0+0)/5:=>(1+0)/25
15718 #v1mex1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5
:0.000(0+0)/5:=>(1+0)/25
15719
15720 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.95
15721 Err:Case21:[3]<t1> ID(5)!=s(1),mex0
15722 Err:Case21:[4]<t2> ID(2)!=ns(5),mex1
15723 Err:Case21:[3]<t1> ID(5)!=s(1),mex2
15724 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.9
15725 void:1 mex:4 tdisp:4 beta:0.6 PNr:.9
15726 Err:Case21:[3]<t1> ID(5)!=s(1),mex0
15727 Err:Case21:[4]<t2> ID(2)!=ns(5),mex1
15728 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.2
15729 Err:Case21:[1]<t0> ID(1)!=ns(5),mex0
15730 Err:Case21:[2]<t3> ID(1)!=ns(5),mex0
15731 Err:Case21:[4]<t2> ID(4)!=ns(5),mex0
15732 Err:Case21:[3]<t1> ID(4)!=ns(5),mex1
15733 Err:Case21:[4]<t1> ID(2)!=ns(5),mex1
15734 ...
15735 Err:Case21:[3]<t1> ID(1)!=ns(5),mex4
15736 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.3
15737 Err:Case21:[1]<t0> ID(1)!=ns(5),mex0
15738 Err:Case21:[2]<t3> ID(1)!=ns(5),mex0
15739 Err:Case21:[4]<t2> ID(4)!=ns(5),mex0
15740 Err:Case21:[4]<t3> ID(4)!=ns(5),mex1
15741 Err:Case21:[0]<t4> ID(3)!=ns(5),mex1
15742 Err:Case21:[2]<t3> ID(2)!=ns(5),mex2
15743 Err:Case21:[1]<t0> ID(2)!=ns(5),mex2
15744 Err:Case21:[1]<t0> ID(2)!=ns(5),mex3
15745 Err:Case21:[4]<t2> ID(2)!=ns(5),mex3
15746 Err:Case21:[3]<t1> ID(1)!=ns(5),mex4
15747 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.4
15748 Err:Case21:[2]<t3> ID(0)!=ns(5),mex1
15749 Err:Case21:[4]<t2> ID(1)!=ns(5),mex1
15750 Err:Case21:[4]<t2> ID(0)!=ns(5),mex1
15751 Err:Case21:[2]<t3> ID(1)!=ns(5),mex2
15752 Err:Case21:[3]<t1> ID(0)!=ns(5),mex2
15753 Err:Case21:[1]<t0> ID(3)!=ns(5),mex3
15754 Err:Case21:[4]<t2> ID(1)!=ns(5),mex3
15755 Err:Case21:[3]<t1> ID(2)!=ns(5),mex4
15756 Err:Case21:[3]<t1> ID(1)!=ns(5),mex4
```

```
15757 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.5
15759 Err:Case21[3]<t1>=s(1),mex0
15760 Err:Case21[4]<t2>= ID(2):=ns(5),mex1
15761 Err:Case21[2]<t3>= ID(1):=ns(5),mex3
15762 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.6
15764 Err:Case21[3]<t1>= ID(5):=s(1),mex0
15765 Err:Case21[4]<t2>= ID(2):=ns(5),mex1
15766 Err:Case21[4]<t1>= ID(2):=ns(5),mex2
15767 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.7
15769 Err:Case21[3]<t1>= ID(5):=s(1),mex0
15770 Err:Case21[4]<t2>= ID(2):=ns(5),mex1
15771 Err:Case21[4]<t2>= ID(1):=ns(5),mex2
15772 Err:Case21[4]<t2>= ID(2):=ns(5),mex3
15773 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.8
15774 Err:Case21[3]<t1>= ID(5):=s(1),mex0
15775 Err:Case21[4]<t2>= ID(2):=ns(5),mex1
15776 Err:Case21[3]<t1>= ID(2):=ns(5),mex2
15777 Err:Case21[4]<t2>= ID(2):=ns(5),mex3
15778 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:2 gibbs:1 mex:-1 tdisp:4 beta:0.6 PNr:.8
15779 Err:Case21[2]<t3>= ID(5):=s(1),mex0
15780 Err:Case21[3]<t1>= ID(5):=s(1),mex1
15781 Err:Case21[4]<t2>= ID(1):=ns(5),mex3
15782 Err:Case21[4]<t2>= ID(2):=ns(5),mex3
15783 Err:Case21[4]<t2>= ID(2):=ns(5),mex3
15784 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:1:2
void:1 gibbs:1 mex:4 tdisp:4 beta:0.6 PNr:.5
15786 Err:Case21[3]<t1>= ID(5):=s(1),mex0
15787 Err:Case21[4]<t2>= ID(2):=ns(5),mex1
15788 Err:Case21[2]<t3>= ID(2):=ns(5),mex2
15789 Err:Case21[4]<t2>= ID(2):=ns(5),mex3
15790 #NG loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.97 ts:4:0:3:
1:2 void:1 gibbs:1 mex:0 tdisp:4 beta:0.6 PNr:.3
15791
15792
15793
15794
15795
15796 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.95:.95:.95:.9
5 ts:4:0:3:12 void:2 gibbs:0 mex:-1 tdisp:4 beta:.7 PNr:.3
15797 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.95:.95:.95:.
95 ts:4:0:3:12 void:2 gibbs:0 mex:-1 tdisp:4 beta:.7 PNr:.3
15799
15800 2012.02.22
15801 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:5 pmin:0.05 pth:.54:.6:.6:.75:.58
ts:4:0:3:1:2 void:2 beta:.5 PNr:.4 mex:-1
15802 #v2mex-1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/
5:0.000(0+0)/5:==>(0+0)/25
15803 #v2mex0:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5
:0.000(0+0)/5:==>(0+0)/25
15804 #v2mex1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
;0.000(0+0)/5:==>(1+0)/25
15805 #v2mex2:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
:0.200(1+0)/5:==>(2+0)/25
15806 #v2mex3:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
:0.000(0+0)/5:==>(1+0)/25
15807 #v2mex4:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
:0.000(0+0)/5:==>(1+0)/25
15808 #void:0
15809 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.54:.6:.6:.84:.7
ts:4:0:3:1:2 void:0 beta:.7 PNr:-1
15810 #v0mex-1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5
:0.000(0+0)/5:==>(1+0)/25
15811
15812 2012.02.20
15813 (1)認識率の計算を修正した?
15814 ##[1]例 text-independent by gibbs
15815 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10 pmin:0.05 pth:.54:.6:.6:.81:.7
1 ts:4:0:3:1:2 tdisp:4 void:2 beta:.7 PNr:.3 mex:-1
15816 #OK#v2mex-1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/25
15817 #OK#v2mex0:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0
)/5:0.000(0+0)/5:==>(0+0)/25
```

```
15818 #NG#v2mex1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5:0.200(1+0
)/5:0.200(1+0)/5:==>(2+0)/25
15819 #NG#v2mex2:Case21 Identification Error(FP+fP)/Total:0.200(1+0)/5:0.000(0+0)/5:0.200(1+0)/5:0.000(0+0
)/5:0.200(1+0)/5:==>(2+0)/25
15820 #NG#v2mex3:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5:0.000(0+0
)/5:0.200(1+0)/5:==>(2+0)/25
15821 #OK#v2mex4:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0
)/5:0.000(0+0)/5:==>(0+0)/25
15822 ##[2]例 text-independent by bayes
15823 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7   pmin:0.05 pth:0.98:0.98:0.
98:0.96 ts:4:0:3:1:2 tdisp:4 void:2 gibbs:0 PNr:.3 mex:-1
15824 #OK#v2mex-1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+
0)/5:0.000(0+0)/5:==>(0+0)/25
15825 #NG#v2mex0:Case21 Identification Error(FP+fP)/Total:0.200(1+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0
)/5:0.400(1+1)/5:==>(2+1)/25
15826 #NG#v2mex1:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.400(1+1)/5:0.400(1+1
)/5:0.400(1+1)/5:==>(3+3)/25
15827 #NG#v2mex2:Case21 Identification Error(FP+fP)/Total:0.400(1+1)/5:0.000(0+0)/5:0.200(1+0)/5:0.200(1+0
)/5:0.200(1+0)/5:==>(4+1)/25
15828 #NG#v2mex3:Case21 Identification Error(FP+fP)/Total:0.200(1+0)/5:0.000(0+0)/5:0.400(1+1)/5:0.400(1+1
)/5:0.400(1+1)/5:==>(3+2)/25
15829 #NG#v2mex4:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.400(1+1)/5:0.400(1+1
)/5:0.000(0+0)/5:==>(1+1)/25
15830 ##[3]例 text-dependent by gibbs
15831 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:10   pmin:0.05 pth:.54:.6:.6:.81:.71
ts:4:0:3:1:2 tdisp:4 void:2 beta:.7 PNr:.3 mex:-1
15832 ##[4]例 text-dependent by bayes
15833 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7   pmin:0.05 pth:0.98:0.98:0.98:0.9
8:0.96 ts:4:0:3:1:2 tdisp:4 void:2 gibbs:0 PNr:.3 mex:-1
15834 #NG#v2mex2:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0)/5:0.000(0+0
)/5:0.200(1+0)/5:==>(1+0)/25
15835 #NG#v2mex4:Case21 Identification Error(FP+fP)/Total:0.000(0+0)/5:0.000(0+0)/5:0.200(1+0)/5:0.000(0+0
)/5:0.000(0+0)/5:==>(1+0)/25
15836
15837 2012.02.15a
15838 (1) loo4gibbs-srにオプション gibbs:<mode>を使えるようにした。
15839       (必要無いところでアプログラムの違いが出ないように。)
15840       gibbs:<mode> gibbs:1でギブス分布, gibbs:0で従来のベイズ推定.
15841 2012.02.15
15842 (1) オプション PNr:<alpha>を追加
15843 PNr:<alpha> CAN2の出力の正例に対する平均ymeanPと負例に対する平均ymeanNに対し
15844       CAN2の1と-1を判定するい値ythlm[t]を、
15845       ythl[m][t]=alpha*ymeanP[m][t]+(1-alpha)*ymeanN[m][t];
15846       で設定する
15847 注意) オプション ntxi:<ntx>:<_ntxi> の,<ntxi>はデータファイル中の各テキストに
15848       対するステップ数の個数, <_ntxi>はCase1とCase2の認識打切ステップ数.
15849
15850 (2) できるだけ速く(間違いの無い)話者識別法として、まず, Case1でFP(False Positive : 間違って
15851       1を出してしまう間違い)を無くす、すると Case1では TP(True Positive:正しく1を出す)が, 指定
15852       ステップ数までに識別できないことになる。この後者の場合, 認識打切ステップ数<_ntxi>において
15853       Case2で識別することとする。これにより、より速く間違いのない話者識別ができると, するど,
15854 loo4bayse-sr では pth, beta, PNrを調整してまだできていない.
15855 loo4gibbs-sr では pth,PNrを微調整を考えればいいのでは?だが今のところ,
15856       Case1とCase2だけで識別いのでは?いや, Case2だけでは選い·ステップ数を計算せい)
15857 ##############
15858 ###[1] OK for text-independent by gibbs
15859 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:5   pmin:0.05 pth:.54:.6:.6:.75:.58
ts:4:0:3:12 void:2 tdisp:4 beta:.5 PNr:-1
15860 ###[2] NG for text-independent by bayes
15861 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7   pmin:0.05 pth:0.98:0.98:0.98:0.
98:0.96 ts:4:0:3:1:2 tdisp:4 void:2 PNr:.3 mex:-1
15862 ##############
15863 2012.02.14
15864 (1) ギブス分布を使う話者識別プログラム (loo4gibbs-sr) を作成し、単純ベイズを使って, mex:-1で1個間違いして
(loo4bayes-sr.c)
15865       も同等の機能を持つように改変した。
15866 (2) 次のオプション void:<n>, mex:<m>, pth:<pth1>:<pth2>:.. を追加した
15867 void:0  void識別器を使わない
15868 void:1  void識別器を使う。初期確率はすべての学習機械で均一。
15869 void:2  void識別機を使う。初期確率は void:0学習確率が1(=1-pmin),他の学習機械は0(=pmint=0.01?)
15870 mex:<m>  学習機械 mexを用いない。mex:-1のときはすべてを使う
15871 pth:<pth1>:<pth2>:..  テキスト毎に認識のしきい値を設定する。
15872
15873 (2) text-indepdata.datに対し, loo4gibbs-sr でvoid:2を使って, mex:-1で1個間違いして
きた。
15874       text-indepdata.datに対し, loo4bayes-srでは void:0,1,2 のいづれも, mex:-1で識別率100%, mex:4でこれ
より
15875       良い識別率を達成するパラメータは見つかっていない (見つかるかもしれないが...).
15876 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7   pmin:0.03 pth:.64:.6:.6:.91:.76
ts:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:3
15877 ###[1] text-independent by gibbs
15878
```

```
15879 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:20  pmin:0.03 pth:.64:.6:.6:.91:.7
3 ts:4:0:3:1:2 tdisp:4 void:2 beta:0.7 mex:0
15880 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10  pmin:0.03 pth:.64:.6:.6:.80:.5
15881
15882 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10  pmin:0.03 pth:.64:.6:.6:.80:.5
4 ts:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:2
15883 #v2:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15884 #v2:Case2 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
/20fP0)
15885 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:10  pmin:0.03 pth:.64:.6:.6:.80:.5
4 ts:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:-1
15886 #v2:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15887 #v2:Case2 usePP Identification Error:0.000(0/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15888 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:.54:.6:.6:.75:.54
ts:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:-1
15889 void:2 beta:1 mex:-1 Perfect!
15890 #v2:usePP Identification (tP,fP):<t4>5@(5,0)[3,0]<t3>5@(5,0)[3.8,
0]<t2>5@(5,0)[3.,2,0]
15891 #v2:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15892 #v2:Case2 usePP Identification Error:0.000(0/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15893 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:.54:.6:.6:.75:.54
ts:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:4
15894 void:2 beta:1 mex:4 NotPerfect!
15895 #v2:usePP Identification (tP,fP):<t4>4@(4,0)[3.25,0]<t3>4@(4,0)[2.75,0]<t1>4@(4,
1)[3,5,2]<t2>4@(4,0)[3.5,0]
15896 #v2:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15897 #v2:Case2 usePP Identification Error:0.000(0/20fP0)0.000(0/20fP0)0.050(1/20fP0)0.000(0
/20fP0)
15898 #void:1 beta:1 mex:-1 NotPerfect!
15899 #v1:usePP Identification (tP,fP):<t4>5@(5,0)[1.4,1]<t0>5@(5,0)[1.4,0]<t3>5@(5,0)[1.6,0]<t1>5@(5,2)[
3,4,1]<t2>5@(5,1)[1.2,1]
15900 #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15901 #v1:Case2 usePP Identification Error:0.040(1/25fP1)0.000(0/25fP0)0.080(2/25fP2)0.040(1
/25fP0)
15902 #void:0 beta:1 mex:4 NotPerfect!
15903 #v1:usePP Identification (tP,fP):<t4>4@(4,2)[1.5,1]<t0>4@(4,0)[1.5,0]<t1>4@(4,3)
[3,1]<t2>4@(4,1)[1.25,1]
15904 #v1:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15905 #v1:Case2 usePP Identification Error:0.100(2/20fP2)0.000(0/20fP3)0.150(3/20fP3)0.050(1
/20fP1)
15906 #void:0 beta:1 mex:-1 NotPerfect!
15907 #v1:usePP Identification (tP,fP):<t4>5@(5,1)[1.4,1]<t0>5@(5,0)[1.4,0]<t3>5@(5,0)[1.6,0]<t1>5@(5,2)[
3,2,1]<t2>5@(5,1)[1.2,1]
15908 #v0:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15909 #v0:Case2 usePP Identification Error:0.040(1/25fP1)0.000(0/25fP0)0.080(2/25fP2)0.040(1
/25fP1)
15910 #void:0 beta:1 mex:4 NotPerfect
15911 #v0:usePP Identification (tP,fP):<t4>4@(4,2)[1.5,1]<t0>4@(4,1)[1.75,3]<t1>4@(4,3
)[3,1]<t2>4@(4,1)[1.25,1]
15912 #v0:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15913 #v0:Case2 usePP Identification Error:0.100(2/20fP2)0.150(3/20fP3)0.050(1
/20fP1)
15914 ###[2] text-independent bayes
15915 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:0.98:0.98:0.98:0.
98:0.96 ts:4:0:3:1:2 tdisp:4 void:1 mex:-1
15916 #void:1 mex:-1 Perfect!
15917 #v1:usePP Identification (tP,fP):<t4>5@(5,0)[2.8,0]<t3>5@(5,0)[2.4,0]<t1>5@(5,0)[3.
4,0]<t2>5@(5,0)[3,4,0]
15918 #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15919 #v1:Case2 usePP Identification Error:0.000(0/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15920 #void:2 mex:-1 NotPerfect!
15921 #v1:usePP Identification (tP,fP):<t4>5@(5,0)[3.8,0]<t1>5@(5,0)[4,
0]<t2>5@(5,0)[3.8,0]
15922 #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15923 #v1:Case2 usePP Identification Error:0.040(1/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15924 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:0.98:0.98:0.98:0.
98:0.96 ts:4:0:3:1:2 tdisp:4 void:1 mex:4
15925 void:1 mex:4 NotPerfect
15926 #v1:usePP Identification (tP,fP):<t4>4@(4,0)[2.75,0]<t3>3@(4,0)[2.5,0]<t1>4@(4,1
)[3.25,2]<t2>4@(3,0)[3.3333,0]
15927 #v1:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15928 #v1:Case2 usePP Identification Error:0.050(1/20fP1)0.000(0/20fP1)0.050(1
/20fP0)
15929 void:2 mex:4 NotPerfect
15930 #v2:usePP Identification (tP,fP):<t4>4@(3,0)[3,0]<t3>4@(4,0)[4.25,0]<t1>4@(4,1]
4,3]<t2>4@(3,0)[3.66667,0]
15931 #v2:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15932 #v2:Case2 usePP Identification Error:0.050(1/20fP1)0.000(0/20fP1)0.050(1
```

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/20fP0)
15933 ###[3] text-dependent by gibbs
15934 loo4gibbs-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:.6:.6:.6:.75:.57 t
s:4:0:3:1:2 tdisp:4 void:2 beta:1 mex:-1
15935 #void:2 beta:1 mex:-1 Perfect!
15936 #v2:usePP Identification (tP,fP):<t4>5@(5,0)[3,0]<t0>5@(5,0)[2,0]<t3>5@(5,0)[2,6,0]<t1>5@(5,0)[3.4,
0]<t2>5@(5,0)[2,0]
15937 #v2:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15938 #v2:Case2 usePP Identification Error:0.000(0/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15939 #void:2 beta:2 mex:4 Perfect!
15940 #v2:usePP Identification (tP,fP):<t4>4@(4,0)[2.25,0]<t0>4@(4,0)[2.25,0]<t3>4@(4,0)[3.5,0]<t1>4@(4,0)[4
,0]<t2>4@(4,0)[2,0]
15941 #v2:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15942 #v2:Case2 usePP Identification Error:0.000(0/20fP0)0.000(0/20fP0)0.000(0
/20fP0)
15943
15944 ###[4] text-dependent by bayes
15945 loo4bayes-sr fn:../mineishi/text-depdata2.dat ns:5 ntx:5 ntxi:10:7  pmin:0.05 pth:0.98:0.98:0.98:0.9
8:0.96 ts:4:0:3:1:2 tdisp:4 void:2 mex:-1
15946 #void:2 mex:-1 Perfect!
15947 #v2:usePP Identification (tP,fP):<t4>5@(5,0)[3.8,0]<t3>5@(5,0)[2.8,0]<t1>5@(5,0)[
3.4,0]<t2>5@(5,0)[2.8,0]
15948 #v2:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)
15949 #v2:Case2 usePP Identification Error:0.000(0/25fP0)0.000(0/25fP0)0.000(0
/25fP0)
15950 #void:2 mex:4 Perfect
15951 #v2:usePP Identification (tP,fP):<t4>4@(4,0)[3.5,0]<t1>4@(4,0)
[3.5,0]<t2>4@(4,0)[2.75,0]
15952 #v2:Case1 usePP Identification Error:0.000(0/4)0.000(0/4)0.000(0/4)
15953 #v2:Case2 usePP Identification Error:0.000(0/20fP0)0.000(0/20fP0)0.000(0
/20fP0)
15954
15955 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.55 pth:0.55 ts:4:0:3:1:2
tdisp:4 void:1 beta:1
15956 loo4gibbs-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.60 pth:0.60 ts:4:0:3:1:2
tdisp:4 void:1 beta:1.2
15957 loo4gibbs-sr fn:../mineishi/text-indepdata2.dat ns:5 ntx:5 ntxi:10:7  pmin:0.55 pth:0.55 ts:4:0:3:1:2
tdisp:4 void:1 beta:1
15958
15959 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.98 pth:0.98 ts:4:0:3:1:2
tdisp:4 void:2
15960 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.98 pth:0.98 ts:4:0:3:1:2
tdisp:4 void:2
15961
15962 #Use iconipll
15963 #experr dataG
15964 (1)loo4bayes-sr fn:../mineishi/text-indepdata2.dat ns:5 ntx:5 ntxi:10:7
:2 tdisp:4
15965 #Original Verification Error Rate:0.028(7/250)0.020(5/250)0.032(8/250)0.044(11/250)0.016(4/250)
15966 #Original Verification    FP Rate:0.020(4/200)0.015(3/200)0.025(5/200)0.030(6/200)0.020(4/200)
15967 #Original Verification    FN Rate:0.060(3/50)0.040(2/50)0.060(3/50)0.100(5/50)0.000(0/50)
15968 #Original Identification Error Rate:0.080(4/50)0.060(3/50)0.060(3/50)0.100(5/50)0.040(2/50)
15969 MinMmaxFN->Better to use 'ts:2:0:3:1:?
15970 MinMmaxFP->Better to use 'ts:4:0:4:3:1'?
15971 MinErr->Better to use 'ts:2:0:4:3:1'?
15972 #Bayes Verification (tP,fP):<t4>5(5,0)[2.2,0]<t0>5(5,0)[2.2,0]<t0>5(5,0)[2.4,0]<t1>5(5,0)[
2,0]
15973 #Bayes Verification Error Rate:0.000(0/25)0.000(0/25)0.000(0/25)
15974 #Bayes Verification FP:0.000(0/20)0.000(0/20)0.000(0/20)0.000(0/20)
15975 #Bayes Verification FN:0.000(0/5)0.000(0/5)0.000(0/5)
15976 Err[t4]=0.028Err[t0]=0.02Err[t3]=0.032Err[t1]=0.044Err[t2]=0.016
15977 #BIN Identification v1(tP,fP):<t4>5@(5,0)[2.2,0]<t0>5@(5,0)[1.6,0]<t3>5@(5,0)[1.6,0]<t1>5@(5,0)[2.4,
0]<t2>@5(5,0)[1.4,0]
15978 #v1:usePP Identification (tP,fP):<t4>5@(5,0)[1.8,0]<t1>5@(5,0)[
2.2,0]<t2>5@(5,0)[1.4,0]
15979 #v1:Case1 usePP Identification Error:0.000(0/25)0.000(0/25)0.000(0/25)
15980 #v1:Case2 usePP Identification Error:0.200(10/50)0.200(10/50)0.280(14/50)0.400(20/50)0.420(21/50)
15981 MinMmaxFP->Better to use 'ts:4:0:1:1:2'?
15982 MinErr->Better to use 'ts:0:4:3:1:2'?
15983 loo4bayes-sr fn:../mineishi/text-indepdata.dat ns:5 ntx:5 ntxi:10:7  pmin:0.95 pth:0.95 ts:4:0:3:1:2
tdisp:4
15984 #Original Verification Error Rate:0.092(23/250)0.056(14/250)0.096(24/250)0.140(35/250)0.132(33/250)
15985 #Original Verification    FP Rate:0.070(14/200)0.045(9/200)0.080(16/200)0.135(27/200)0.120(24/200)
15986 #Original Verification    FN Rate:0.180(9/50)0.100(5/50)0.160(8/50)0.180(9/50)
15987 #Original Identification Error Rate:0.200(10/50)0.200(10/50)0.280(14/50)0.400(20/50)0.420(21/50)
15988 MinMmaxFP->Better to use 'ts:4:0:1:3:2'?
15990 MinErr->Better to use 'ts:0:4:3:1'?
15991 #Bayes Verification (tP,fP):<t4>5(5,0)[3.2,0]<t0>5(5,1)[2.2,2]<t3>5(5,0)[3.6,3]<t2>(4.0
)[4,0]
15992 #Bayes Verification Error Rate:0.000(0/25)0.040(1/25)0.000(0/25)0.160(4/25)0.040(1/25)
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Page 255 (left column):

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15593  #Bayes Verification FP:0.000(0/20)0.050(1/20)0.100(2/20)0.200(4/20)0.000(0/20)
15594  #Bayes Verification FN:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.200(1/5)
15595  Err[t4]=0.092Err[t0]=0.056Err[t3]=0.096Err[t1]=0.14Err[t2]=0.132
15996  #BIN Identification vl(tP,fP):<t4>@5(5,1)[3,4,3]<t0>@4(4,2)[1,5,3,5,1]<t3>@4(4,1)[2,5,6]<t1>@3(3,2)[3,
2]<t2>@3(3,1)[3,66667,4]
15997  #v1:usePP Identification (tP,fP):<t4>5@(5,0)[3,0]<t0>5@(5,0)[2,2,2]<t3>5@(5,0)[2,6,0]<t1>5@(5,0)[3,
0]<t2>4@(4,0)[3,0]
15998  #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.200(1/5)
15999  #v1:Case2 usePP Identification Error:0.000(0/5)0.000(0/25)0.000(0/25)0.040(1/25)0.040(1/25)
16000  (2) emacs tmp/loo4gp.dat for table of tex
16001  (3) gnuplot tmp/loo4bayes.plt for fig
16002
16003
16004
16005  #dataF
16006  loo4bayes-sr fn:../mineishi/text-depdata2.dat  ns:5  ntx:5  ntxi:10:7    pmin:0.05  pth:0.98  ts:4:0:3:1:2
tdisp:4
16007  #Original Verification Error Rate:0.028(7/250)0.020(5/250)0.032(8/250)0.044(11/250)0.016(4/250)
16008  #Original Verification         FP Rate:0.020(4/200)0.015(3/200)0.025(5/200)0.030(6/200)0.020(4/200)
16009  #Original Verification         FN Rate:0.060(3/50)0.040(2/50)0.060(3/50)0.100(5/50)0.040(2/50)
16010  #Original Identification Error Rate:0.080(4/50)0.060(3/50)0.060(3/50)0.100(5/50)0.040(2/50)
16011  MinMmaxFN->Better to use:ts:2:0:3:4:1'?
16012  MinMmaxFN->Better to use:ts:4:0:3:2:1'?
16013  MinErr->Better to use:ts:2:0:4:3:1'?
16014  #Bayes Verification (tP,fP):<t4>(5,0)[2,0]<t0>(5,0)[2,4,0]<t1>(5,0)[2,6,0]<t2>(5,0)[
2,0]
16015  #Bayes Verification Error Rate:0.000(0/25)0.000(0/5)0.000(0/25)0.000(0/25)0.000(0/25)
16016  #Bayes Verification FP:0.000(0/20)0.000(0/20)0.000(0/20)0.000(0/20)0.000(0/20)
16017  #Bayes Verification FN:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)
16018  Err[t4]=0.028Err[t0]=0.02Err[t3]=0.032Err[t1]=0.044Err[t2]=0.016
16019  #BIN Identification vl(tP,fP):<t4>@5(5,0)[2,2,0]<t3>@5(5,0)[1,8,0]<t0>@5(5,0)[2,2,0]<t1>@5(5,0)[2,4,
0]<t2>@5(5,0)[1,4,0]
16020  #v1:usePP Identification (tP,fP):<t4>5@(5,0)[1,8,0]<t0>5@(5,0)[1,6,0]<t3>5@(5,0)[1,8,0]<t1>5@(5,0)[
2,2,0]<t2>5@(5,0)[1,4,0]
16021  #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)
16022  #v1:Case2 usePP Identification Error:0.000(0/25)0.000(0/25)0.000(0/25)0.000(0/25)0.000(0/25)
16023
tdisp:4
16024  loo4bayes-sr fn:../mineishi/text-indepdata.dat  ns:5  ntx:5  ntxi:10:7    pmin:0.05  pth:0.98  ts:4:0:3:1:2
16025  #Original Verification Error Rate:0.092(23/250)0.056(14/250)0.096(24/250)0.140(35/250)0.132(33/250)
16026  #Original Verification         FP Rate:0.070(14/200)0.045(9/200)0.080(16/200)0.135(27/200)0.120(24/200)
16027  #Original Verification         FN Rate:0.180(9/50)0.100(5/50)0.160(8/50)0.160(8/50)0.180(9/50)
16028  #Original Identification Error Rate:0.200(10/50)0.100(5/50)0.200(10/50)0.280(14/50)0.400(20/50)0.420(21/50)
16029  MinMmaxFN->Better to use:ts:4:0:1:3:2'?
16030  MinMmaxFN->Better to use:ts:4:0:1:3:2'?
16031  MinErr->Better to use:ts:4:0:3:2:1'?
16032  #Bayes Verification (tP,fP):<t4>(5,0)[3,8,0]<t0>(5,1)[2,4,2]<t3>(5,0)[3,8,4,5]<t2>(4,0
)[4,5,0]
16033  #Bayes Verification Error Rate:0.000(0/25)0.040(1/25)0.000(0/25)0.080(2/25)0.040(1/25)
16034  #Bayes Verification FP:0.000(0/20)0.050(1/20)0.000(0/20)0.100(2/20)0.000(0/20)
16035  #Bayes Verification FN:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.200(1/5)
16036  Err[t4]=0.092Err[t0]=0.056Err[t3]=0.096Err[t1]=0.14Err[t2]=0.132
16037  #BIN Identification vl(tP,fP):<t4>@5(5,0)[3,8,0]<t0>@4(4,1)[2,2]<t3>@4(4,1)[2,75,6]<t1>@3(2,2)[3,2]<
t2>@3(3,1)[3,66667,5]
16038  #v1:usePP Identification (tP,fP):<t4>5@(5,0)[3,2,0]<t0>5@(5,0)[2,4,0]<t3>5@(5,0)[2,8,0]<t1>5@(5,0)[
3,4,0]<t2>4@(3,0)[2,33333,0]
16039  #v1:Case1 usePP Identification Error:0.000(0/5)0.000(0/5)0.000(0/5)0.000(0/5)0.200(1/5)
16040  #v1:Case2 usePP Identification Error:0.000(0/25)0.000(0/25)0.000(0/25)0.000(0/25)0.080(2/25)
16041  #Error (FP,FN) Rate[%] for text 4,0,3,1,2:  (nFP,nFN)=(10,40)
16042  [1] loo4bayes-sr fn:../mineishi/text-indepdata.dat  ns:5  ntx:5  ntxi:5  ntxi:10  yth:0  ist:0  ts:0:1:2:3:4
16043  ( 2,5, 30.0)(   5.0,  30.0)(  2.5,   0.0)( 20.0,   0.0)( 12.5,  20.0)#m0
16044  --> use min_t max_m FN[m][t]
16045  [2] loo4bayes-sr fn:../mineishi/text-indepdata.dat  ns:5  ntx:5  ntxi:5  ntxi:10  yth:0  ist:0  ts:4:3:0:1:2
16046  [3] better?
16047  ( 7.0,  18.0)(  10.0)( 16.0)( 13.5, 16.0)( 12.0, 18.0)#Classification error for each text
16048
16049
16050  080202
16051  #Result of recognition: 5-class Acc(for correct,wrong),  2-class ACC(=for a,b,c,d).
16052  #faf-a:+0.92 -0.96 -0.89 -0.76 -0.80 a->a OK.Acc=1(1,0). ACC=1(abcd4,0,1)
16053  #faf-i:+0.50 -0.79 -1.00 -0.96 i->i OK.Acc=1(abcd4,0,1)
16054  #faf-u:-0.84 +0.79 -0.84 -0.86 u->u OK.Acc=1(3,0). ACC=1(abcd4,0,1)
```

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16063  #faf-e:-1.00 -0.81 +0.28 -0.91 e->e OK.Acc=1(4,0). ACC=1(abcd4,0,1)
16064  #faf-o:-0.95 -0.99 -0.78 +0.83 o->o OK.Acc=1(5,0). ACC=1(abcd4,0,1)
16065  #ffs-a:+0.63 -1.00 -0.97 -0.55 a->a OK.Acc=1(6,0). ACC=1(abcd4,0,1)
16066  #ffs-i:-0.94 +0.53 -0.48 -0.69 i->i OK.Acc=1(7,0). ACC=1(abcd4,0,1)
16067  #ffs-u:-0.77 -0.62 +0.49 -0.46 u->u OK.Acc=1(8,0). ACC=1(abcd4,0,1)
16068  #ffs-e:-0.91 -0.88 -0.93 +0.97 e->e OK.Acc=1(9,0). ACC=1(abcd4,0,1)
16069  #ffs-o:-0.90 -0.79 -0.63 -0.71 o->o OK.Acc=1(10,0). ACC=1(abcd4,0,1)
16070  #fkm-a:+0.86 -0.92 -0.71 -0.58 a->a OK.Acc=1(11,0). ACC=1(abcd4,0,1)
16071  #fkm-i:-0.99 +0.20 -0.86 -0.97 i->i OK.Acc=1(12,0). ACC=1(abcd4,0,1)
16072  #fkm-u:-0.96 -0.82 +0.57 -0.79 u->u OK.Acc=1(13,0). ACC=1(abcd4,0,1)
16073  #fkm-e:-0.56 -0.66 -0.86 +0.51 e->e OK.Acc=1(14,0). ACC=1(abcd4,0,1)
16074  #fkm-o:-0.97 -0.94 -0.87 -0.80 o->o OK.Acc=1(15,0). ACC=1(abcd4,0,1)
16075  #fks-a:+0.40 -1.00 -0.86 -0.37 a->a OK.Acc=1(16,0). ACC=1(abcd4,0,1)
16076  #fks-i:-0.98 +0.58 -0.60 -1.00 i->i OK.Acc=1(17,0). ACC=1(abcd4,0,1)
16077  #fks-u:-0.91 -0.92 -0.74 -0.99 u->i NG.Acc=0.944444(17,1). ACC=0.988889(abcd4,0,1,0)
16078  #fks-e:-0.92 -0.79 -0.51 +0.42 e->e OK.Acc=0.947368(18,1). ACC=0.989474(abcd4,0,0,1)
16079  #fks-o:-0.53 -0.94 -0.64 -0.63 o->o OK.Acc=0.95(19,1). ACC=0.99(abcd4,0,0,1)
16080  #fms-a:+0.79 -0.97 -0.89 -0.91 a->a OK.Acc=0.952381(20,1). ACC=0.990476(abcd4,0,0,1)
16081  #fms-i:-1.00 -0.49 -0.76 -0.73 i->i OK.Acc=0.954545(21,1). ACC=0.981818(abcd4,0,0,1)
16082  #fms-u:-0.93 -0.44 +0.17 -0.80 u->u OK.Acc=0.956522(22,1). ACC=0.982609(abcd4,0,0,1)
16083  #fms-e:-0.90 -0.93 -0.74 +0.48 e->e OK.Acc=0.958333(23,1). ACC=0.983333(abcd4,0,0,1)
16084  #fms-o:-0.86 -0.54 -0.83 +0.38 o->o OK.Acc=0.96(24,1). ACC=0.984(abcd4,0,1)
16085  #fsu-a:+0.90 -1.00 -0.80 -0.09 a->a OK.Acc=0.961538(25,1). ACC=0.984615(abcd4,0,0,1)
16086  #fsu-i:-0.98 +0.03 -0.38 -0.88 i->i OK.Acc=0.962963(26,1). ACC=0.985185(abcd4,0,0,1)
16087  #fsu-u:-0.60 -0.74 -0.28 +0.94 u->i NG.Acc=0.964286(27,1). ACC=0.978571(abcd4,0,1,0)
16088  #fsu-e:-0.98 -0.58 -0.90 +0.82 e->e OK.Acc=0.965517(28,1). ACC=0.97931(abcd4,0,0,1)
16089  #fsu-o:-1.00 -0.86 -0.99 +0.07 o->o OK.Acc=0.966667(29,1). ACC=0.98(abcd4,0,0,1)
16090  #ftk-a:+0.35 -1.00 -0.78 -0.60 a->a OK.Acc=0.967742(30,1). ACC=0.980645(abcd4,0,0,1)
16091  #ftk-i:-0.97 +0.63 -0.02 -0.55 i->i OK.Acc=0.96875(31,1). ACC=0.98125(abcd4,0,0,1)
16092  #ftk-u:-0.94 -0.59 -0.53 -0.58 u->u OK.Acc=0.969697(32,1). ACC=0.975758(abcd4,0,0,1)
16093  #ftk-e:-0.59 -0.83 -0.70 +0.21 e->e OK.Acc=0.970588(33,1). ACC=0.976471(abcd4,0,0,1)
16094  #ftk-o:-0.69 -0.63 -0.92 -0.82 o->o OK.Acc=0.971429(34,1). ACC=0.977143(abcd4,0,0,1)
16095  #fyn-a:-0.13 -0.97 -0.89 +0.65 a->a OK.Acc=0.972222(35,1). ACC=0.972222(abcd4,0,1,0)
16096  #fyn-i:-0.89 +0.38 -0.24 -0.73 i->i OK.Acc=0.962973(36,1). ACC=0.972973(abcd4,0,0,1)
16097  #fyn-u:+0.16 -1.00 +0.33 -0.46 u->u OK.Acc=0.973684(37,1). ACC=0.968421(abcd4,0,1,0)
16098  #fyn-e:-0.99 -0.72 -1.00 -0.97 o->o OK.Acc=0.974359(38,1). ACC=0.964103(abcd4,0,1,0)
16099  #fyn-o:-0.76 -0.70 -0.86 -0.28 o->o OK.Acc=0.975(39,1). ACC=0.96(abcd4,0,1,0)
16100  #mau-a:+0.77 -0.96 -0.87 -0.97 a->a OK.Acc=0.975610(40,1). ACC=0.960976(abcd4,0,0,1)
16101  #mau-i:-0.82 +0.13 -0.68 -0.78 i->i OK.Acc=0.97619(41,1). ACC=0.957143(abcd4,1,0,1)
16102  #mau-u:-0.68 -0.59 +0.22 -0.83 u->u OK.Acc=0.976744(42,1). ACC=0.95814(abcd4,0,0,1)
16103  #mau-e:-0.97 -0.72 -0.99 +0.25 e->e OK.Acc=0.977273(43,1). ACC=0.959091(abcd4,0,0,1)
16104  #mau-o:-0.91 -0.91 -0.51 -0.86 o->o OK.Acc=0.977778(44,1). ACC=0.96(abcd4,0,0,1)
16105  #mms-a:+0.61 -0.83 -0.83 +0.63 a->a OK.Acc=0.978261(45,1). ACC=0.96087(abcd4,0,0,1)
16106  #mms-i:-0.88 -0.20 -0.78 -0.90 i->i OK.Acc=0.978723(46,1). ACC=0.957447(abcd4,0,0,1)
16107  #mms-u:-0.92 -0.87 -0.93 -0.56 u->u OK.Acc=0.979167(47,1). ACC=0.958333(abcd4,0,0,1)
16108  #mms-e:-0.90 -0.31 -0.87 +0.69 e->e OK.Acc=0.979592(48,1). ACC=0.959184(abcd4,0,0,1)
16109  #mms-o:-0.78 -0.94 -0.80 -0.97 o->o OK.Acc=0.98(49,1). ACC=0.96(abcd4,0,1,0)
16110  #mmy-a:-0.91 -0.99 +0.36 -0.89 a->a OK.Acc=0.980392(50,1). ACC=0.960784(abcd4,0,0,1)
16111  #mmy-i:-0.99 +0.36 -0.61 -0.84 i->i OK.Acc=0.980769(51,1). ACC=0.961538(abcd4,0,0,1)
16112  #mmy-u:-0.93 -0.61 +0.58 -0.76 u->u OK.Acc=0.981132(52,1). ACC=0.962264(abcd4,0,0,1)
16113  #mmy-e:-0.76 -0.58 -0.85 +0.59 e->e OK.Acc=0.981481(53,1). ACC=0.962963(abcd4,0,0,1)
16114  #mmy-o:-0.92 -1.00 -0.86 -0.98 o->o OK.Acc=0.981818(54,1). ACC=0.963636(abcd4,0,0,1)
16115  #mnm-a:+0.35 -0.97 -0.95 -0.83 a->a OK.Acc=0.982143(55,1). ACC=0.964286(abcd4,0,0,1)
16116  #mnm-i:-0.97 +0.61 -0.42 -0.79 i->i OK.Acc=0.982456(56,1). ACC=0.961404(abcd4,0,1,0)
16117  #mnm-u:-0.87 -0.98 -0.66 +0.69 u->u OK.Acc=0.982759(57,1). ACC=0.958621(abcd4,0,1,0)
16118  #mnm-e:-0.74 -0.75 -1.00 +0.72 e->e OK.Acc=0.983051(58,1). ACC=0.959322(abcd4,0,0,1)
16119  #msh-a:+0.46 -0.94 -0.87 -0.73 a->a OK.Acc=0.983333(59,1). ACC=0.96(abcd4,0,0,1)
16120  #msh-i:-1.00 -0.66 -0.94 -0.86 i->i OK.Acc=0.983607(60,1). ACC=0.960656(abcd4,0,0,1)
16121  #msh-u:-0.96 -0.77 -0.42 -0.86 u->i NG.Acc=0.983871(61,1). ACC=0.96129(abcd4,0,0,1)
16122  #msh-e:-0.93 -0.75 -0.99 +0.64 e->e OK.Acc=0.984127(62,1). ACC=0.961905(abcd4,0,0,1)
16123  #msh-o:-1.00 -0.79 -1.00 -0.79 o->o OK.Acc=0.984375(63,1). ACC=0.9625(abcd4,0,0,1)
16124  #mtm-a:+0.74 -1.00 -0.89 +0.74 a->a OK.Acc=0.984615(64,1). ACC=0.963077(abcd4,0,0,1)
16125  #mtm-i:-1.00 +0.82 -1.00 -0.94 i->i OK.Acc=0.984848(65,1). ACC=0.963636(abcd4,0,0,1)
16126  #mtm-u:-0.93 -0.66 -0.82 +0.45 u->u OK.Acc=0.985075(66,1). ACC=0.964179(abcd4,0,0,1)
16127  #mtm-e:-1.00 -0.98 -0.81 +0.72 e->e OK.Acc=0.985294(67,1). ACC=0.964706(abcd4,0,0,1)
16128  #mtm-o:-0.94 -0.14 -0.89 -0.90 o->o OK.Acc=0.985507(68,1). ACC=0.965217(abcd4,0,0,1)
16129  #mtt-a:+0.73 -1.00 +0.95 -0.80 a->a OK.Acc=0.985714(69,1). ACC=0.965714(abcd4,0,0,1)
16130  #mtt-i:-1.00 -0.52 -0.94 -1.00 i->i OK.Acc=0.985915(70,1). ACC=0.966197(abcd4,0,0,1)
16131  #mtt-u:+0.73 -1.00 -0.87 -0.87 u->i NG.Acc=0.986111(71,1). ACC=0.966667(abcd4,0,0,1)
16132  #mtt-e:-0.77 -0.75 -0.66 -0.95 e->e OK.Acc=0.986301(72,1). ACC=0.967123(abcd4,0,0,1)
16133  #mtt-o:-0.89 -0.98 -1.00 -0.52 o->o OK.Acc=0.986486(73,1). ACC=0.967568(abcd4,0,0,1)
16134  #mxm-a:+0.34 -1.00 -0.98 +0.61 a->a OK.Acc=0.986667(74,1). ACC=0.968(abcd4,0,0,1)
16135  #mxm-i:-0.91 +0.82 -0.99 -0.77 i->i OK.Acc=0.986842(75,1). ACC=0.968421(abcd4,0,0,1)
16136  #mxm-u:-1.00 -0.61 -0.87 -0.91 u->u OK.Acc=0.987013(76,1). ACC=0.968831(abcd4,0,0,1)
16137  #mxm-e:-0.77 -0.81 -0.40 -0.95 i->i NG.Acc=0.987179(77,1). ACC=0.966667(abcd4,0,0,1)
16138  #mxm-o:-0.96 -0.67 -0.47 +0.93 e->e OK.Acc=0.987342(78,1). ACC=0.967089(abcd4,0,0,1)
16139  #lxo4vowels N:2 k:8 rsa:2:0.7:1:20 o->o OK.Acc=0.62(79,1). ACC=0.9675(abcd4,0,0,1)
16140  #loo4vowels N:2 k:8 rsa:2:0.7:1:20 faf ffs fkm fks fms fsu ftk fyn mau mms mmy mnm msh mtm mtt mxm
mnm msh mtm mtt mxm
16141  #Result of recognition: 5-class Acc(for correct,wrong),  2-class ACC(=for a,b,c,d).
16142  #5-class Accuracy=0.9875=79/80
16143  #2-class ACCURACY2=0.9675=387/400=(317+70)/(317+3+10+70)
16144  #loo4vowels N:2 k:9 rsa:2:0.7:1:20 faf ffs fkm fks fms fsu ftk fyn mau mms mmy mnm msh mtm mtt mxm
16145  #5-class Accuracy2=0.975=78/80
```

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16224 mkpat4ford08 method:2 flt:2:1:266 flt:3:268.793:57.8692 cep:1:30 DISP:1 <../satovowels/512/faf-a.dat
>tmp.dat
16225        (4) Leave-One-Out method
16226
16227 loo4vowels N:2 k:9 rsa:2:0.7:1:20 faf ffs fkm fks fms fsu ftk fyn mau nmy mnm msh mtm mtt mxm
16228 #ACC=0.995=398/400=(318+80)/(318+2+0+80) for N:2 k:9 rsa:2:0.7:1:20 ***
16229 #ACC=0.995=398/400=(318+80)/(318+2+0+80) for N:2 k:9 rsa:2:0.7:1:30
16230 #ACC=0.995=398/400=(318+80)/(318+2+0+80) for N:2 k:9 rsa:2:0.7:1:50
16231
16232 #ACC=0.9925=397/400=(317+80)/(317+3+0+80)for N:2 k:9 rsa:2:0.7:1:100
16233 #ACC=0.99=396/400=(316+80)/(316+4+0+80) for N:2 k:9 rsa:2:0.7:1:50
16234 #ACC=0.985=394/400=(314+80)/(314+6+0+80) for N:2 k:9 rsa:2:0.7:1:20
16235 loo4vowels N:2 k:8 rsa:2:0.7:1:20 dir:../sato/vowels/512
16236 #ACC=0.99=396/400=(316+80)/(316+4+0+80) for N:3 k:9 rsa:2:0.7:1:20
16237 #ACC=0.9925=397/400=(317+80)/(317+3+0+80) for N:1 k:9 rsa:2:0.7:1:20
16238 #ACC=0.9925=397/400=(317+80)/(317+3+0+80) for N:2 k:8 rsa:2:0.7:1:20
16239 #ACC=0.985=394/400=(314+80)/(314+6+0+80) for N:2 k:9 rsa:1:1.0:1:50
16240 #ACC=0.9925=397/400=(317+80)/(317+3+0+80) for N:2 k:9 rsa:2:0.8:1:50
16241 #ACC=0.9925=397/400=(317+80)/(317+3+0+80) for N:2 k:9 rsa:2:0.6:1:50
16242 #ACC=0.9875=395/400=(315+80)/(315+5+0+80) for N:2 k:10 rsa:2:0.7:1:20
16243
16244 #NG
16245 #NG
16246 #NGallname="faf ffs fkm fks fms fsu ftk fyn mau nmy mnm msh mtm mtt mxm"
16247 #NGloo4vowels N:1 k:20 B:20 faf ffs
16248 #NGloo4vowels N:2 k:9 B:20 faf ffs fkm fks fms fsu ftk fyn mau nmy mnm msh mtm mtt mxm
16249 #NG#ACC=0.89 356/400=(276+80)/(276+44+0+80) for N:2 k:30 B:20
16250 #NG#ACC=0.91=364/400=(284+80)/(284+36+0+80) for N:2 k:20 B:20
16251 #NG#ACC=0.9775=391/400=(311+80)/(311+9+0+80) for N:2 k:10 B:20
16252 #NG#ACC=0.9825=393/400=(313+80)/(313+7+0+80) for N:2 k:9 B:20
16253 #NG#ACC=0.9775=391/400=(311+80)/(311+9+0+80) for N:2 k:8 B:20
16254 #NG
16255 #NG#ACC=0.965=386/400=(306+80)/(306+14+0+80) for N:2 k:9 B:19 alpha:0.7
16256 #NG#ACC=0.9825=393/400=(313+80)/(313+7+0+80) for N:2 k:9 B:20 alpha:0.7
16257 #NG#ACC=0.9625=385/400=(305+80)/(305+15+0+80) for N:2 k:9 B:21 alpha:0.7
16258 #NG#ACC=0.975=390/400=(310+80)/(310+10+0+80) for N:2 k:9 B:22 alpha:0.7
16259 #NG#ACC=0.9575=383/400=(303+80)/(303+17+0+80) for N:2 k:9 B:25
16260 #NG#ACC=0.94=376/400=(296+80)/(296+24+0+80) for N:2 k:9 B:30
16261 #NG#ACC=0.9375=375/400=(295+80)/(295+25+0+80) for N:2 k:9 B:40
16262 #NG#ACC=0.935=374/400=(294+80)/(294+26+0+80) for N:2 k:9 B:50 alpha:0.7
16263 #NG
16264 #NG#ACC=0.94=376/400=(296+80)/(296+24+0+80) for N:3 k:9 B:20
16265 #NG#ACC=0.9425=377/400=(297+80)/(297+23+0+80) for N:1 k:9 B:20
16266 #NG#ACC=0.975=390/400=(310+80)/(310+10+0+80) for N:1 k:9 B:20
16267 #NG
16268 #NG#ACC=0.96=384/400=(304+80)/(304+16+0+80)   N:2 k:9 B:20 alpha:0.8
16269 #NG#ACC=0.98=380/400=(300+80)/(300+20+0+80)   N:2 k:9 B:30 alpha:0.8
16270 #NG#ACC=0.9325=373/400=(293+80)/(293+27+0+80) N:2 k:9 B:30 alpha:0.6
16271 #NG#ACC=0.9375=375/400=(295+80)/(295+25+0+80) N:2 k:9 B:20 alpha:0.6
16272
16273
16274 070808 2007.08.08
16275 (1) y1(t)=y1(t)+y2(t)のような複数の時系列の和に対して、y1(t)=f(x(t)),y1(t)=f(y(t-k))
16276      として学習・予測する為ための次元 k は間々には必要な k,kより も大きくしないと,alias より も大きく または最小
16277      公倍数と関係が予測学習できない。(例えば、音声信号で,alias信号を y2(t) とすると, y1(t)を
16278      学習可能な k1よりも も大きな k としないと予測学習がうまくいかず予測もうまくいかない。
16279      take-i を k=108, N=1で行う とOK。
16280      take-i を rsa:-1:0.7:1:20 k=9 N=33 で学習予測すると、予測の後半で大きく激しい振動が起こるが、
16281      これは次元 k=9が小さすぎるため学習自体がうまくいかなかったと考えられる。
16282 (2) bagging は予測のばらつきを小さくすることができる
16283      rsa:2:0.7:1:20 k=9 N=33 は、予測誤差は大きいが、発散しないので学習が悪くても予測は発散しない?
16284
16285 (3) よって、大きいkのbaggingCAN2は、学習予測はうまくいく?が、計算時間は膨大。
16286 (4) よって、大きいkのsingleCAN2は、学習予測はそこそこうまくいく。計算時間小。
16287 (5) 大きいkで学習予測がうまくいくと、母音情報以外の情報を含むとき、y(2)を除くには?
16288      →y(t)=y1(t)+y2(t)のy1(t)のみが母音情報を含む。
16289
16290 cmd='vowelrecogv3 te:kita tr:fuku:kita:kosi:sanuki:take:yama k:108 N:1 m:poles4 dir:../onsei07 rsa:-
1:0.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16291 ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
16292 # 0.041724*  0.050032  0.051740  0.044296          #te:kita-a->fuku-a
16293 # 0.029946*  0.035564  0.036939  0.038957  0.037960 #te:kita-i->fuku-a
16294 # 0.035444   0.034436* 0.041246  0.039364          #te:kita-u->kita-i
16295 # 0.053878   0.044872* 0.046004  0.054538          #te:kita-e->fuku-i
16296 # 0.051176   0.050905  0.051780  0.051260  0.050349* #te:kita-o->kosi-o
16297 ##te:kita-aiueo-D300+450 are recognized as aaiio (rate=2/5).###
16298 cmd='vowelrecogv3 te:kita tr:fuku:kita:kosi:sanuki:take:yama k:54 N:1 m:poles4 dir:../onsei07 rsa:-1
:0.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16299 ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
16300 # 0.037126*  0.050544  0.045928  0.050374  0.049715 #te:kita-a->kita-a
16301 # 0.038120*  0.042463  0.039109  0.044229  0.040624 #te:kita-i->kita-a
16302 # 0.090577   0.073495* 0.080941  0.079126  0.090917 #te:kita-u->kita-i
```

```
16145 #2-class ACCURACY=0.9725=389/400=(317+72)/(317+3+8+72)
16146 #rsa:2:0.7:1:20
16147 #5-class Accuracy=0.975=78/80
16148 #2-class Accuracy=0.9725=389/400=(317+72)/(317+3+8+72)
16149 #rsa:2:0.7:1:40
16150 #5-class Accuracy=0.975=78/80.
16151 #2-class ACCURACY=0.9675=387/400=(317+70)/(317+3+10+70)
16152 loo4vowels N:2 k:8 rsa:2:0.7:1:20 r:2:1:-1 dir:../sato/vowels/512 faf ffs fkm fks fms fsu ftk fyn ma
16153 u mms nmy mnm msh mtm mtt mxm
16154 #5-class Accuracy=0.9625=77/80
16155 #2-class ACCURACY=0.8325=333/400=(320+13)/(320+0+67+13)
16156 loo4vowels N:2 k:8 rsa:2:0.7:1:20 r:2:1:0 dir:../sato/vowels/512 faf ffs fkm fks fms fsu ftk fyn mau
16157 mms nmy mnm msh mtm mtt mxm
16158 #5-class Accuracy=0.8625=69/80
16159 #2-class ACCURACY=0.97=388/400=(317+71)/(317+3+9+71)
16160
16161      (1) 図を描く
16162 cd orig
16163 for v in a i u e o; do
16164 for name in faf ffs fkm fks fms fsu ftk fyn mau mms nmy mnm msh mtm mtt mxm; do
16165 f=${name}-${v}
16166 echo $f
16167 gnuplot <<EOF
16168 #set terminal tgif
16169 #set output "$f.obj"
16170 set terminal gif
16171 set output "$f.gif"
16172 plot "$f.dat" using 0:1 w lp
16173 EOF
16174 #tgif -print -gif $f.obj; convert -size 120x120 $f.gif eps2:$f.eps
16175 convert -size 120x120 $f.gif eps2:$f.eps
16176 done
16177 done
16178 jlatex showvowels.tex
16179 xdvi showvowels.dvi
16180 cd ..
16181
16182      (2) 512個のデータを抽出  →絵を描く
16183 export n=512
16184 mkdir ${n}
16185 for v in a i u e o; do
16186 for name in faf ffs fkm fks fms fsu ftk fyn mau mms nmy mnm msh mtm mtt mxm; do
16187 f=${name}-${v}
16188 echo $f
16189 head -${n} orig/${f}.dat > ${n}/${f}.dat
16190 done
16191 done
16192 export f="ftk-i" ; head -1000 orig/${f}.dat | tail  -${n} > ${n}/${f}.dat
16193 export f="ftk-e" ; head -1000 orig/${f}.dat | tail  -${n} > ${n}/${f}.dat
16194 export f="fms-u" ; head -1000 orig/${f}.dat | tail  -${n} > ${n}/${f}.dat
16195 cd $n
16196 for v in a i u e o; do
16197 for name in faf ffs fkm fks fms fsu ftk fyn mau mms nmy mnm msh mtm mtt mxm; do
16198 f=${name}-${v}
16199 echo $f
16200 gnuplot <<EOF
16201 #set terminal tgif
16202 #set output "$f.obj"
16203 set terminal gif
16204 set output "$f.gif"
16205 plot "$f.dat" using 0:1 w lp
16206 EOF
16207 #tgif -print -gif $f.obj; convert -size 120x120 $f.gif eps2:$f.eps
16208 convert -size 120x120 $f.gif eps2:$f.eps
16209 done
16210 done
16211 cp ../showvowels.tex .
16212 platex showvowels.tex;
16213 xdvi showvowels.dvik
16214
16215      (3) DCT+ケプストラム
16216 cd ../../can2b
16217 #melf=2595*log10(1+f/700)
16218 export cmd="mkpat4ford08 method:2 flt:2:1:266 flt:2:1:266 flt:2:1:266 flt:3:273.013:58.7854 cep:1:256"
16219 export cmd="mkpat4ford08 method:2 flt:2:1:266 flt:2:1:266 flt:2:1:266 flt:3:273.013:58.7854 cep:1:30"
16220 mkpat4ford08 method:2 flt:2:1:266 flt:3:273.013:58.7854 cep:1:30 DISP:1 <../satovowels/512/faf-a.dat
>tmp.dat
16221 ###Use 'flt:2:1:266 flt:3:268.793:57.8692' for faster or PC without mathematica.#k=266
16222 #mkpat4ford08 method:2 flt:2:1:266 DISP:1 <../satovowels/s512/faf-a.dat>tmp.dat
16223 mkpat4ford08 method:2 flt:2:1:266 flt:3:268.793:57.8692 cep:1:30 DISP:1 <../satovowels/512/faf-a.dat
```

```
16303 #   0.060020    0.055369    0.063042    0.046864*   0.059241    #te:kita-e ->kita-e
16304 #   0.038134    0.049173    0.046771    0.045823    0.035850*   #te:kita-o ->kosi-o
16305 ###te:kita-aiueo-t300+450 are recognized as aaieo (rate=3/5).###
16306 cmd="vowelrecogv3 te:kita te:fuku:kita:kosi:sanuki:yama k:27 N:1 m:poles4 dir:../onsei07 rsa:-1
:0.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null/
16307 ### mean distance of poles of 'aiueo' of kita and trifuku are as follows.
16308 #   0.088684*   0.125334    0.118831    0.113225    0.109768    #te:kita-a ->kita-a
16309 #   0.097601    0.065109*   0.106008    0.102770    0.104083    #te:kita-i ->kita-i
16310 #   0.084542    0.084308    0.067852*   0.080423    0.090796    #te:kita-u ->kita-u
16311 #   0.074266*   0.095642    0.083713    0.078753    0.086541    #te:kita-e ->fuku-a
16312 #   0.094603    0.085486    0.088332    0.087355    0.084728*   #te:kita-o ->take-o
16313 ###te:kita-aiueo-t300+450 are recognized as aiuao (rate=4/5).###
16314
16315
16316 070807
16317 bw=0
16318 1dfftsmooth ../onsei07/take-a.dat 0 ${bw} 0
16319 cp smooth_.dat smooth_${bw}.dat
16320 tf=1000:t1=1000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=300:pt=`expr ${pf} + ${pl}` #
16321 #rsa=rsa:-1:0.7:1:20 k=10 k=10 N=33 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frt
l}
16322 rsa=rsa:-1:0.7:1:20 k=108 N=1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frtl
16323 #rsa=rsa:2:0.7:1:20 k=54 N=1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:2 g=g:5e-3 w=w:0.2 T=100 :date
16324 cmd=".../tspredv3 smooth_${bw}.dat ${g} ${w} T:${T} vt:0.5 vr:10"
:0:0 ${rsa} k:${k} y:0:0:0:1 $[g] ${w} T:${T} vt:0.5 vr:10"
16325 time $cmd >/dev/null :date
16326 #MSE=4.850070e+05(NMSE1.075298e+00)(n300) 1000-2000-2000-2300k108N1mp1:1:1.000000H1-y #take-a not so
bad>/
16327 #MSE=6.220460e+03(NMSE3.356675e-01)(n300) 1000-2000-2000-2300k108N1mp1:1:1.000000H1-y #take-i
16328 #MSE=3.122831e+04(NMSE5.822037e-02)(n300) 1000-2000-2000-2300k108N1mp1:1:1.000000H1-y #take-u
16329 #MSE=9.267949e+03(NMSE5.998219e-02)(n300) 1000-2000-2000-2300k108N1mp1:1:1.000000H1-y #take-e
16330 #MSE=4.930433e+04(NMSE3.216551e-01)(n300) 1000-2000-2000-2300k108N1mp1:1:1.000000H1-y #take-o
16331
16332
16333 bw=0
16334 1dfftsmooth ../onsei07/take-i.dat 0 ${bw} 0
16335 cp smooth_.dat smooth_${bw}.dat
16336 tf=1000:t1=1000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=300:pt=`expr ${pf} + ${pl}` #
16337 #rsa=rsa:-1:0.7:1:20 k=10 k=10 N=33 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frt
l}
16338 #rsa=rsa:-1:0.7:1:20 k=54 N=1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frtl
}
16339 rsa=rsa:2:0.7:1:20 k=54 N=1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16340 cmd=".../tspredv3 smooth_${bw}.dat ${g} ${w} T:${T} vt:0.5 vr:10"
:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10"
16341 time $cmd >/dev/null :date
16342 #MSE=8.434503e+03(NMSE3.444075e-01) MSEdy1.570484e+04(NMSEdy1.157852e+00)(n300) 1000-2000-2000-2300
k54N1mp1:1:1.000000H1-dy #bw=0 rsa:2:0.7:1:20 k=54 N=1 take-i
16343 #MSE=8.607817e+03(NMSE3.514845e-01)(n300) 1000-2000-2000-2300k54N1mp1:1:1.000000H1-y #take-i
:1:20 k=54 N=1 take-i
16344 #checklorenz#############################check
16345 #checklorenz#070806
16346 #checklorenz#070806
16347 #checklorenz#fn=/home/kuro/tex/lecture/ChinoSystem/07/07tsl.dat
16348 #checklorenz#tf=0:t1=1000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=300:pt=`expr ${pf} + ${pl}` #
16349 #checklorenz#rsa=rsa:-1:0.7:1:20 k=5 N=200 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:0 H=DiffMode:0 H=Hosei:1 M:1-1:1 ib:0:0:0
0 ; to=${frtl
16350 #checklorenz#time $cmd >/dev/null :date
00 ; to=${frtl}
:date
16351 #checklorenz#cmd=".../tspredv3 $fn 3:i:jcnn04,4:距離 k1 k2
:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10"
16352 #checklorenz#/can2 <<EOF
次元 k1 k2
16353 #checklorenz#time $cmd >/dev/null :date
16354 #checklorenz##MSE=6.182551e+00(NMSE1.057440e-01)(n100) 0-1900:1900-2000k5N200mp1:1:1.000000H1-y
16355 #checklorenz##MSE=6.774789e+00(NMSE1.066339e-01)(n100) 0-1900:1900-2000k8N200mp1:1:1.000000H1-y
16356 #checklorenz##MSE=8.401854e+00(NMSE1.322436e-01)(n100) 0-1900:1900-2000k9N200mp1:1:1.000000H1-y
16357 #checklorenz##MSE=9.796245e+00(NMSE1.541910e-01)(n100) 0-1900:1900-2000k10N200mp1:1:1.000000H1-y
16358 #checklorenz##MSE=9.796245e+00(NMSE1.541910e-01)(n100) 0-1900:1900-2000k10N200mp1:1:1.000000H1-y
16359 #checklorenz##MSE=1.036661e+01(NMSE1.631716e-01)(n100) 0-1900:1900-2000k11N200mp1:1:1.000000H1-y
16360 #checklorenz##MSE=1.096946e+02(NMSE1.426572e+00)(n100) 0-1900:1900-2000k21N200mp1:1:1.000000H1-y
16361 #checklorenz##MSE=1.096946e+02(NMSE1.426572e+00)(n100) 0-1900:1900-2000k21N200mp1:1:1.000000H1-y
16362 #checklorenz##MSE=9.057635e+01(NMSE1.425654e+00)(n100) 0-1900:1900-2000k7N200mp1:1:1.000000H1-y
16363 #checklorenz##MSE=9.965051e+01(NMSE1.568480e+00)(n100) 0-1900:1900-2000k6N200mp1:1:1.000000H1-y
16364 #checklorenz####
16365 #checklorenz#k=8
16366 #checklorenz#./can2 <<EOF
16367 #checklorenz#$[k] 0
次元 k1 k2
16368 #checklorenz#/home/kuro/tex/lecture/ChinoSystem/07/07tsl.dat
16369 #checklorenz#0-2000:2000-2000
16370 #checklorenz#0 0 0 0    #yE規化 [ymin0:ymax0]→[ymin1:ymax1]
```

```
16371 #checklorenz#quit
16372 #checklorenz#EOF
16373 #checklorenz#fnl=tmp/07train.dat
16374 #checklorenz#cp tmp/train+test.dat ${fnl}
16375 #checklorenz#export rsa=rsa:2:0.7:1:20 train=${fnl} pred=/dev/null
16376 #checklorenz#rsa=rsa:-1:0.7:1:20 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 M:1-1:1 ib:0:0:0 ${rsa} k:${k} >/dev/null   #s
rtl
16377 #checklorenz#time ens2ge 3:{train} ${pred} N:1-500:1 M:1-1:1 ib:0:0:0
earch optimal
16378 #checklorenz#k=5
16379 #checklorenz#t:07train v:null LDnanLvar0.00e+00Lvar00.00e+00Ltrain4.794e-05HnanLval0=2.500e-13N-425-
:1M:1rsa:-1:0.7:1:120bst-1:0
16380 #checklorenz#t:07train v:null LDnanLvar0.00e+00Lvar00.00e+00Ltrain5.389e-05HnanLval1=2.500e-13N-438-
:1M:1rsa:-1:0.7:1:120bst-1:0
16381 #checklorenz#k=8
16382 #checklorenz#t:07train v:null LDnanLvar0.00e+00Lvar00.00e+00Ltrain1.636e-04HnanLval0=1.600e-13N-171-
:1M:1rsa:-1:0.7:1:120bst-1:0
16383 #checklorenz#t:07train v:null LDnanLvar0.00e+00Lvar00.00e+00Ltrain1.684e-04HnanLval1=2.500e-13N-169-
:1M:1rsa:-1:0.7:1:120bst-1:0
16384 #checklorenz#
16385 #checklorenz#fn=/home/kuro/tex/lecture/ChinoSystem/07/07tsl.dat
16386 #checklorenz#tf=0:t1=1900:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=100:pt=`expr ${pf} + ${pl}` #
16387 #checklorenz##rsa=rsa:-1:0.7:1:20 k=5 N=200 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=1
00 ; to=${frtl}
16388 #checklorenz##rsa=rsa:2:0.7:1:20 k=8 N=171 mp=mp:1:1:1 DM=DiffMode:0 H=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100
;date
16389 #checklorenz#cmd=".../tspredv3 $fn 3:{tf}-${tt}:${pf}-${pt} vt:0.5 vr:10"
:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10"                    次元 k1 k2
16390 #checklorenz#cmd=".../tspredv3 $fn 3:{tf}-${tt}:${pf}-${pt}:${pf}-${pt} ${mp} ${H} N:$[DM} ${H} N:$
{N}-$N:1 M:1-1:1 ib:0:0
16391 #checklorenz#time $cmd >/dev/null :date
16392 #checklorenz#k=8:fn=/home/kuro/tex/lecture/ChinoSystem/07/07tsl.dat
16393 #checklorenz#./can2 <<EOF
16394 #checklorenz#0
16395 #checklorenz#$[k] 0                     0:時系列,1:関数,3:i:jcnn04,4:距離データ
16396 #checklorenz#$[fn]                                                    次元 k1 k2
16397 #checklorenz#0-2000:2000-2000
16398 #checklorenz#0 0 0 0                #yE規化 [ymin0:ymax0]→[ymin1:ymax1]
16399 #checklorenz#quit
16400 #checklorenz#EOF
16401 #checklorenz#fnl=tmp/07train.dat:cp tmp/train+test.dat ${fnl}
16402 #checklorenz#train=${fnl};pred=/dev/null
16403 #checklorenz#rsa=rsa:-1:0.7:1:20 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${
frtl
16404 #checklorenz#rsa=rsa:2:0.7:1:40 mp=mp:1:1:1 DM=DiffMode:0 H=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16405 #checklorenz#time ens2ge ${train} ${pred} Ngs:1-500:1 Lstd:0:2 M:1-1:1 ib:0:0:0 ${rsa} k:${k} y:0:
0:0:0 ${g} $[w} T:${T} vt:0.5 vr:10 >/dev/null      #search optimal
16406 #checklorenz#t:07train v:null Lval0=1.233e-03(uc2.386e-04)LbiasPopB1.305e-03Ltrain7.
835e-05LtrainE4.136e-04t0.75BN v0-1M:1rsa:2:0.7:1:40Dst-1:0
16407 #checklorenz#
16408 #checklorenz#k=8:N=90:rsa=rsa:2:0.7:1:40:fn=/home/kuro/tex/lecture/ChinoSystem/07/07tsl.dat
16409 #checklorenz#tf=0:t1=2000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=100:pt=`expr ${pf} + ${pl}` #
16410 #checklorenz#mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16411 #checklorenz#cmd=".../tspredv3 $fn 3:{tf}-${tt}:${pf}-${pt} ${mp} ${H} N:$[DM} ${H} N:$
{N}-$N:1 M:1-1:1 ib:0:0
:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10"
16412 #checklorenz#time $cmd >/dev/null :date
16413 #checklorenz################################
16414 #checklorenz##########################
16415 070804
16416 ##########bagging
16417 #bw=8000:
16418 bw=0
16419 1dfftsmooth ../onsei07/take-i.dat 0 ${bw} 0
16420 cp smooth_.dat smooth_${bw}.dat
16421 tf=1000:t1=1000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=300:pt=`expr ${pf} + ${pl}` #
16422 #rsa=rsa:-1:0.7:1:20 k=10 N=33 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frt
1}
16423 #rsa=rsa:2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
1}
16424 rsa=rsa:2:0.7:1:20 k=54 N=54 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16425 cmd=".../tspredv3 smooth_${bw}.dat ${g} ${w} T:${T} vt:0.5 vr:10"
:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10"
16426 time $cmd >/dev/null :date
16427 #MSE=3.836574e+03(NMSE1.742402e-01)(n300) 1000-2000-2000-2300k54N6mp1:1:1.000000H1-y #bw=8000#real12
7m17.958suser73m12.810s
16428 #MSE=7.282911e+03(NMSE2.973844e-01)(n300) 1000-2000-2000-2300k54N6mp1:1:1.000000H1-y #bw=0#real110ml
.917suser73m3.700s bagging
16429 #MSE=8.607817e+03(NMSE3.514845e-01)(n300) 1000-2000-2000-2300k54N1mp1:1:1.000000H1-y rsa:2:0.7
:1:20 k=54 N=1 take-i
16430 #MSE=1.649300e+04(NMSE6.734613e-01)(n300) 1000-2000-2000-2300k54N2mp1:1:1.000000H1-y #bw=0 rsa:-1:0.
7:1:20 k=54 N=2 singleCAN2
16431 #MSE=8.604056e+03(NMSE3.513309e-01)(n300) 1000-2000-2000-2300k54N1mp1:1:1.000000H1-y #bw=0 rsa:-1:0.
```

```
16432  7:1:20 k=54 N=1 singleCAN2 take-i
16432  #MSE=4.280764e+04(NMSE2.792716e-01)(n300)  1000-2000-2300k54N6mpl:1:1.000000H1-y #bw=0 rsa:2:0.7
16433  :1:20 k=54 N=6 take-o
16433  #MSE=6.943526e+03(NMSE2.835262e-01)(n300)  1000-2000-2300k108N6mpl:1:1.000000H1-y #bw=0 rsa:2:0.
16434  7:1:20 k=108 N=6 take-i
16435  #MSE=3.771251e+05(NMSE3.361158e-01)(n300)  1000-2000-2300k54N1mpl:1:1.000000H1-y #bw=0 k=54 N=1
       singleCAN2 take-a
16436  #MSE=4.229602e+05(NMSE1.160003e+00)(n300)  1000-2000-2300k54N1mpl:1:1.000000H1-y #bw=0 k=54 N=1
       singleCAN2 take-u
16437  #MSE=3.361643e+05(NMSE2.162712e+00)(n300)  1000-2000-2300k54N1mpl:1:1.000000H1-y #bw=0 k=54 N=1
       singleCAN2 take-e
16438  #MSE=4.191130e+05(NMSE2.734239e+00)(n300)  1000-2000-2300k54N1mpl:1:1.000000H1-y #bw=0 k=54 N=1
       singleCAN2 take-o
16439  ###############
16440  ###############
16441  1dfftsmooth ../onsei07/take-i.dat 0 8000 0
16442  tf=1000:tl=1000:tt=`expr $(tf) + $(tl)`:pf=$tt:pl=300:pt=`expr $(pf) + $(pl)`  #
16443  #rsa=rsa=-1:0.7:1:20 k=10 N=33 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ; to=$(frt
       l}
16444  rsa=rsa=-1:0.7:1:20 k=10 N=10 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ; to=$(frtl
       }
16445  #rsa=rsa=2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 :date
16446  cmd="./tspredv3 smooth_.dat $(tf}-$(pf}-$(pt} $(tf)-$(pf}-$(pt} T:$(T} vt:0.5 vr:10"
16447  $(rsa} k:$(k} y:0:0:0:1 $(g} $(w} T:$(T} vt:0.5 vr:10"
16448  time $cmd >/dev/null :date
16449  ###############
16450  ###############
16451  ###############
16452  1dfftsmooth ../onsei07/take-i.dat 0 8000 0
16453  tf=500:tl=1000:tt=`expr $(tf) + $(tl)`:pf=$tt:pl=150:pt=`expr $(pf) + $(pl)`  #
16454  #rsa=rsa=-1:0.7:1:20 k=10 N=33 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ; to=$(frt
       l}
16455  rsa=rsa=-1:0.7:1:20 k=10 N=10 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ; to=$(frtl
       }
16456  #rsa=rsa=2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 :date
16457  cmd="./tspredv3 smooth_.dat $(tf}-$(pf}-$(pt} $(tf)-$(pf}-$(pt} T:$(T} vt:0.5 vr:10"
16458  $(rsa} k:$(k} y:0:0:0:1 $(g} $(w} T:$(T} vt:0.5 vr:10"
16459  time $cmd >/dev/null :date
16460  ###############
16461  #MSE=3.073411e+02(NMSE1.540332e-02)(n100)  500-1500-1600k54N6mp1:1:1.000000H1-y bagging
16462  #MSE=7.677453e+03(NMSE3.847785e-01)(n100)  500-1500-1600k10N9mp1:1:1.000000H1-y N9 0 10000 0
16463  #MSE=3.407013e+03(NMSE1.707527e-01)(n100)  500-1500-1600k10N8mp1:1:1.000000H1-y N8 0 10000 0 pri
       nt 4 .*10000./32768=1.220703125
16464  #MSE=4.457887e+03(NMSE1.234204e-01)(n100)  500-1500-1600k10N7mp1:1:1.000000H1-y N7 0 10000 0
16465
16466  #MSE=3.530281e+03(NMSE1.752576e-01)(n100)  500-1500-1600k10N8mp1:1:1.000000H1-y N8 0 9000 0 prin
       t 4 .*9000./32768=1.0986328125
16467  #MSE=5.498508e+03(NMSE2.461048e-01)(n100)  500-1500-1600k10N8mp1:1:1.000000H1-y N8 0 8000 0 prin
       t 4 .*8000./32768=0.9765625
16468  #MSE=9.491524e+03(NMSE3.639910e-01)(n100)  500-1500-1600k54N6mp1:1:1.000000H1-y N8 0 0 print 4
       .*0./32768=0.9765625=0
16469
16470  #MSE=2.836424e+03(NMSE1.087742e-01)(n100)  500-1500-1600k54N6mp1:1:1.000000H1-y k=54 N=6 0 0 0
16471
16472  070209
16473  ## fig2 after(8)
16474  ## fig2 after(8)
16475  set output "k9N33take-a.obj";plot "predictDM0:rsa-1k9N33t1000-1200-take-a.dat" using 2:3 w l, "predi
       ctDM0:rsa-1k9N33t1000-1200-take-a.dat" using 2:1 w l
16476  set output "k9N33take-i.obj";plot "predictDM0:rsa-1k9N33t1000-1200-take-i.dat" using 2:3 w l, "predi
       ctDM0:rsa-1k9N33t1000-1200-take-i.dat" using 2:1 w l
16477  set output "k9N33take-u.obj";plot "predictDM0:rsa-1k9N33t1000-1200-take-u.dat" using 2:3 w l, "predi
       ctDM0:rsa-1k9N33t1000-1200-take-u.dat" using 2:1 w l
16478  set output "k9N33take-e.obj";plot "predictDM0:rsa-1k9N33t1000-1200-take-e.dat" using 2:3 w l, "predi
       ctDM0:rsa-1k9N33t1000-1200-take-e.dat" using 2:1 w l
16479  set output "k9N33take-o.obj";plot "predictDM0:rsa-1k9N33t1000-1200-take-o.dat" using 2:3 w l, "predi
       ctDM0:rsa-1k9N33t1000-1200-take-o.dat" using 2:1 w l
16480  ## fig2 after (9)
16481  set terminal tgif
16482  set output "k54N6take-a.obj";plot "predictDM0:k54N6t1000-1200-take-a.dat" using 2:3 w l, "predictDM0
       :k54N6t1000-1200-take-a.dat" using 2:1 w l
16483  set output "k54N6take-i.obj";plot "predictDM0:k54N6t1000-1200-take-i.dat" using 2:3 w l, "predictDM0
       :k54N6t1000-1200-take-i.dat" using 2:1 w l
16484  set output "k54N6take-u.obj";plot "predictDM0:k54N6t1000-1200-take-u.dat" using 2:3 w l, "predictDM0
       :k54N6t1000-1200-take-u.dat" using 2:1 w l
16485  set output "k54N6take-e.obj";plot "predictDM0:k54N6t1000-1200-take-e.dat" using 2:3 w l, "predictDM0
       :k54N6t1000-1200-take-e.dat" using 2:1 w l
```

```
16486  set output "k54N6take-o.obj";plot "predictDM0:k54N6t1000-1200-take-o.dat" using 2:3 w l, "predictDM0
       :k54N6t1000-1200-take-o.dat" using 2:1 w l
16487  ###vowelrecogv3 tr:fuku te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:
       150:150:150 DISP:1 > /dev/null
16488  cp tmp/_aiueo-take-poles0-N1.obj  ../onsei07/
16489  cp tmp/_aiueo-fuku-poles0-N1.obj  ../onsei07/
16490  ## vowelrecogv3 tr:fuku te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:
       150:150:150 DISP:1 > /dev/null
16491  cp tmp/_aiueo-take-poles0-N1.obj  ../onsei07/_aiueo-take-poles0-N1bag.obj
16492  cp tmp/_aiueo-fuku-poles0-N1.obj  ../onsei07/_aiueo-fuku-poles0-N1bag.obj
16493  ###vowelrecogv3 tr:fuku te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:
       150:150:150 DISP:1 > /dev/null
16494  cp tmp/_aiueo-take-poles0-N6.obj  ../onsei07/_aiueo-take-poles0-N6bag.obj
16495  cp tmp/_aiueo-fuku-poles0-N6.obj  ../onsei07/_aiueo-fuku-poles0-N6bag.obj
16496  ##
16497  for name in take ; do for v in a: do
16498  rm -rf result-ensrs2ge/tmp:
16499  d=../onsei07"
16500  #tf=0:tl=200:tt=`expr $(tf} + $(tl)`:pf=$tt:pl=200:pt=`expr $(pf} + $(pl}`   # NG for take-i pl=200
16501  #tf=0:tl=400:tt=`expr $(tf} + $(tl)`:pf=$tt:pl=200:pt=`expr $(pf} + $(pl}`,  # OK for take-i pl=200
16502  #tf=0:tl=1000:tt=`expr $(tf} + $(tl)`:pf=$tt:pl=200:pt=`expr $(pf} + $(pl}`  # vrry OK for take-i
16503  tf=0:tl=150:tt=`expr $(tf} + $(tl)`:pf=$tt:pl=150:pt=`expr $(pf} + $(pl}`    # NG for take-i pl=200
16504  #rsa=rsa:2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16505  rsa=rsa:2:0.7:1:20 k=27 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
16506  cmd="./tspredv3 $d/$(name}-$(v}.dat $(tf}-$(pf}-$(pt} $(mp} $(DM} N:$N-$N:1 M:1-1:1 ib:0:
       0:0:0 $(rsa} k:$(k} y:0:0:0:0 $(g} $(w} T:$(T} vt:10"
16507  $cmd >/dev/null :date
16508  echo "cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k$(k}N$(N}t$(pf}-$(pt}-$name-$
       v.dat"
16509  cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k$(k}N$(N}t$(pf}-$(pt}-$name-$v.dat
16510  echo "## Done for $cmd ###"
16511  done done
16512
16513  ###(9'')
16514  set terminal tgif
16515  set output "k54N6-s-take-a.obj";plot "predictDM0:k54N6t1600-1650-s-take-a.dat" using 2:3 w l, "predi
       ctDM0:k54N6t1600-1650-s-take-a.dat" using 2:1 w l
16516  set output "k54N6-s-take-i.obj";plot "predictDM0:k54N6t1600-1650-s-take-i.dat" using 2:3 w l, "predi
       ctDM0:k54N6t1600-1650-s-take-i.dat" using 2:1 w l
16517  set output "k54N6-s-take-u.obj";plot "predictDM0:k54N6t1600-1650-s-take-u.dat" using 2:3 w l, "predi
       ctDM0:k54N6t1600-1650-s-take-u.dat" using 2:1 w l
16518  set output "k54N6-s-take-e.obj";plot "predictDM0:k54N6t1600-1650-s-take-e.dat" using 2:3 w l, "predi
       ctDM0:k54N6t1600-1650-s-take-e.dat" using 2:1 w l
16519  set output "k54N6-s-take-o.obj";plot "predictDM0:k54N6t1600-1650-s-take-o.dat" using 2:3 w l, "predi
       ctDM0:k54N6t1600-1650-s-take-o.dat" using 2:1 w l
16520  predictDM0:k54N6t1600-1650-s-take-a.dat
16521  predictDM0:k54N6t1600-1650-s-take-e.dat
16522  predictDM0:k54N6t1600-1650-s-take-i.dat
16523  predictDM0:k54N6t1600-1650-s-take-o.dat
16524  predictDM0:k54N6t1600-1650-s-take-u.dat
16525  predictDM0:k54N6t1600-1650-take-a.dat
16526  #MSE=3.103290e+04(NMSE6.284037e-01)(n50)   800-1600-1650k54N6mpl:1:1.000000H1-y s-taka-a good onl
       y 4.*9000./32768=1.0986328125
16527  #MSE=5.016779e+02(NMSE6.303207e-01)(n50)   800-1600-1650k54N6mpl:1:1.000000H1-y s-taka-i good onl
       y 30steps
16528  #MSE=9.183176e+02(NMSE3.631833e-01)(n50)   800-1600-1650k54N6mpl:1:1.000000H1-y s-taka-u good onl
       y 30steps
16529  #MSE=4.709621e+04(NMSE6.284037e-01)(n50)   800-1600-1650k54N6mpl:1:1.000000H1-y s-taka-e good onl
       y 30steps
16530  #MSE=9.486100e+01(NMSE1.193815e-01)(n50)   800-1600-1650k54N6mpl:1:1.000000H1-y s-taka-o good onl
       y 30steps
16531
16532  070207
16533
16534  (1) see
16535  ###(2) for single CAN2 vowel recognition using M4 80.3%
16536  ###(2-1) single CAN2 for speaker and vowel recognition
16537  ###(3) Single CAN2 with k:9 N:1 m:poles4  with DISP:1 for unstable poles using rsa=-1, N=1
16538  ###(3-1) Single CAN2 with k:9 N:1 m:poles4
16539  ###(4)  bagging CAN2 vowel recognition using bagging poles4 80.3%
16540  ###(4-1) bagging CAN2 for speaker and vowel recognition
16541  ###(5) for bagging vowel recognition using poles4, npt:0.7:1.1:1:179 90.0%
16542  ###(5''+1) for bagging speaker and vowel recognition with tl=150??
16543         information on neither vowels nor speakers
16544
16545  070205
16546  (1)新しいデータファイル from kurolab:/home/funatsu/kurogisensei
16546  kita-a.dat  kosi-e.dat  sanuki-i.dat  take-o.dat   yama-u.dat
16547  kita-e.dat  kosi-i.dat  sanuki-o.dat  take-u.dat   yama-a.dat
16548  fuku-e.dat  kita-i.dat  kosi-o.dat    sanuki-u.dat  yama-e.dat
16549  fuku-i.dat  kita-o.dat  kosi-u.dat    take-a.dat    yama-i.dat
16550  fuku-o.dat  kita-u.dat  sanuki-a.dat  take-e.dat    yama-o.dat
16551  fuku-u.dat  kosi-a.dat  sanuki-e.dat  take-i.dat    yama-o.dat
```

16652
16653 fuku kita kosi sanuki take yama
16654 HF   YK   TS   YT   KY
16655
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16568 舩津 由起   (Koichi YAMANAKA) E-mail : yamanaka(at)kurolab.cntl.kyutech.ac.jp
16569 山中 康一   (Daisuke WAKEYAMA) E-mail : daisuke(at)kurolab.cntl.kyutech.ac.jp
16570 分山 大輔
16571 ###(1)Simple test
16572 cmd='vowelrecogv3 te:fuku tr:kita:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:
20 DiffMode:0 T:100 tt:0:150:0:150 DISP:0 > /dev/null'
16573 ### mean distance of poles of 'aiueo' of fuku and tri:kita are as follows.
16574 # 0.251188 0.289452 0.273946 0.230522* 0.274290 0.313702 #te:fuku-a->kita-e
16575 # 0.277696 0.243527 0.207579 0.194862* 0.313702 #te:fuku-i->kita-e
16576 # 0.270130 0.247939 0.166579* 0.256530 0.285258 #te:fuku-e->kita-e
16577 # 0.298425 0.223836 0.233917 0.205886* 0.299029 #te:fuku-e->kita-e
16578 # 0.278223 0.183050 0.210656 0.142220* 0.281267 #te:fuku-o->kita-e
16579 ###te:fuku-aiueo-t0+0 are recognized as eeuee (rate2/5).###
16580
16581 cmd='vowelrecogv3 te:fuku tr:fuku:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20 DiffMode:0 T:100 tt:0:150:0:150 DISP:0 > /dev/null'
16582 ### mean distance of poles of 'aiueo' of fuku and trifuku are as follows.
16583 # 0.108083* 0.247929 0.221171 0.191632 0.191277 0.184756 #te:fuku-a->fuku-a
16584 # 0.165985 0.113435* 0.165566 0.113744 0.184756 #te:fuku-i->fuku-i
16585 # 0.183136 0.110464 0.067545* 0.151495 0.202858 #te:fuku-e->fuku-u
16586 # 0.166914 0.119819 0.113022 0.103679* 0.142605 #te:fuku-e->fuku-o
16587 # 0.130145 0.133907 0.153148 0.138211 0.096167* #te:fuku-o->fuku-o
16588 # 0.298425 0.223836 0.233917 0.205886* 0.299029 #te:fuku-e->kita-e
16589 ###te:fuku-aiueo-t150+300 are recognized as aiueo (rate5/5).###
16590
16591 cmd='vowelrecogv3 te:fuku tr:fuku:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16592 ### mean distance of poles of 'aiueo' of kita and trifuku are as follows.
16593 # 0.106760* 0.243959 0.192034 0.186021 0.176197 0.186448 #te:kita-a->fuku-a
16594 # 0.196361 0.119138 0.097770* 0.139447 0.139509 #te:kita-i->fuku-i
16595 # 0.214931 0.155669 0.099469* 0.167155 0.225142 #te:kita-e->fuku-u
16596 # 0.182609 0.142115* 0.148231 0.151532 0.130345 #te:kita-e->fuku-o
16597 # 0.137889 0.137213 0.146075 0.130345 0.065218* #te:kita-o->fuku-o
16598 ###te:fuku-aiueo-t150+300 are recognized as aiueo (rate3/5).###
16599
16600 cmd='vowelrecogv3 te:fuku tr:fuku:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16601 ### mean distance of poles of 'aiueo' of kita and trifuku are as follows.
16602 # 0.076874* 0.272932 0.210954 0.261790 0.183666 0.215924 #te:kita-a->kita-a
16603 # 0.240977 0.081283* 0.187353 0.193509 0.215924 #te:kita-i->kita-i
16604 # 0.300150 0.209647 0.043969* 0.232553 0.195253 #te:kita-u->kita-u
16605 # 0.219716 0.156704 0.242049 0.067676* 0.246207 #te:kita-e->kita-e
16606 # 0.135283 0.223407 0.185004 0.117526 0.042896* #te:kita-o->kita-o
16607 ###te:kita-aiueo-t300+450 are recognized as aiueo (rate5/5).###
16608
16609 cmd='vowelrecogv3 te:fuku tr:fuku:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16610 ## mean distance of poles of 'aiueo' of kosi and tr:fuku are as follows.
16611 # 0.059511* 0.293378 0.162199 0.228046 0.128819 0.182666 #te:kosi-a->kosi-a
16612 # 0.227916 0.074924* 0.152499 0.186062 0.182666 #te:kosi-i->kosi-i
16613 # 0.300150 0.054477* 0.236945 0.289193 #te:kosi-u->kosi-u
16614 # 0.219716 0.166361 0.146562 0.021249* 0.209015 #te:kosi-e->kosi-e
16615 # 0.135283 0.223407 0.178139 0.129830 0.046887* #te:kosi-o->kosi-o
16616 ###te:kosi-aiueo-t300+450 are recognized as aiueo (rate5/5).###
16617
16618 cmd='vowelrecogv3 te:take tr:take:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
:0.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16619 ## mean distance of poles of 'aiueo' of kosi and tr:sanuki are as follows.
16620 # 0.071148* 0.254616 0.206540 0.214213 0.118091 #te:sanuki-a->sanuki-a
16621 # 0.228013 0.026058* 0.154901 0.116159 0.178745 #te:sanuki-i->sanuki-i
16622 # 0.233500 0.201124 0.048794* 0.178335 0.238524 #te:sanuki-u->sanuki-u
16623 # 0.237787 0.168038 0.118746 0.024772* 0.202297 #te:sanuki-e->sanuki-e
16624 # 0.107646 0.210191 0.182643 0.125641 0.044079* #te:sanuki-o->sanuki-o
16625 ###te:sanuki-aiueo-t300+450 are recognized as aiueo (rate5/5).##
16626 cmd='vowelrecogv3 te:take tr:fuku:kita:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'

16627 ## mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
16628 # 0.085112* 0.292421 0.276690 0.242664 #te:take-a->take-a
16629 # 0.228005 0.077978* 0.200184 0.196061 #te:take-i->take-i
16630 # 0.241206 0.173047 0.052097* 0.144352 #te:take-i->take-u
16631 # 0.229508 0.145160 0.203592 0.095600* #te:take-e->take-e
16632 # 0.123427 0.151208 0.185801 0.148139 0.020437* #te:take-o->take-o
16633 ###te:take-aiueo-t300+450 are recognized as aiueo (rate5/5).###
16634
16635 cmd='vowelrecogv3 te:yama tr:fuku:kita:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:0'
.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16636 ### mean distance of poles of 'aiueo' of yama and tr:fuku are as follows.
16637 # 0.030461* 0.280675 0.221776 0.214289 #te:yama-a->yama-a
16638 # 0.246467 0.033778* 0.105744 0.127714 #te:yama-i->yama-i
16639 # 0.234355 0.190352 0.038242* 0.156828 #te:yama-u->yama-u
16640 # 0.219334 0.186834 0.107725 0.036482* #te:yama-e->yama-e
16641 # 0.117158 0.213134 0.214295 0.144374 0.044473* #te:yama-o->yama-o
16642 ###te:yama-aiueo-t300+450 are recognized as aiueo (rate5/5).###
16643
16644 cmd='vowelrecogv3 te:kita tr:fuku:kita:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:
0.7:1:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null'
16645 ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
16646 # 0.082877* 0.316910 0.233240 0.262090 #te:kita-a->kita-a
16647 # 0.286755 0.091297* 0.200339 0.211450 #te:kita-i->kita-i
16648 # 0.206961 0.306336 0.026121* 0.271312 #te:kita-i->kita-i
16649 # 0.270694 0.202382 0.295251 0.023597* #te:kita-e->kita-e
16650 # 0.105244* 0.247549 0.264671 0.167109 #te:kita-o->kosi-a
16651 ###te:kita-aiueo-t300+450 are recognized as aiuea (rate4/5).###
16652
16653 vowelrecogv3 te:fuku tr:fuku:kita:kosi:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1
:20 DiffMode:0 T:100 tt:0:150:300:150 DISP:0 > /dev/null
16654
16655
16656 cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 t
t:0:100:0:100 DISP:0 > /dev/null'
16657 ### mean distance of poles of 'aiueo' of take and tr:yama are as follows.
16658 # 0.306987* 0.438194 0.334278 0.419867 #te:take-a->yama-a
16659 # 0.347751 0.277841* 0.324760 0.310572 #te:take-i->yama-i
16660 # 0.274528 0.236659 0.135653* 0.162409 #te:take-u->yama-u
16661 # 0.234948 0.176925 0.242348 0.167168* #te:take-e->yama-e
16662 # 0.175113 0.210354 0.227223 0.174402 0.147531* #te:take-o->yama-o
16663 ###te:take-aiueo-t0+100 are recognized as aiueo (rate5/5).###
16664
16665 cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 t
t:0:100:0:100 DISP:0 > /dev/null'
16666 ### mean distance of poles of 'aiueo' of yama and tr:take are as follows.
16667 # 0.202911 0.361889 0.274528 0.285740 #te:yama-a->yama-a
16668 # 0.371540 0.197229 0.177868 0.152440* #te:yama-i->yama-i
16669 # 0.410672 0.354832 0.158464* 0.274512 #te:yama-u->take-u
16670 # 0.329157 0.271259 0.162409* 0.167168 #te:yama-e->take-u
16671 # 0.238726 0.233827 0.210354 0.249551 0.183540 #te:yama-o->yama-o
16672 ###te:yama-aiueo-t0+100 are recognized as oeuuo (rate2/5).###
16673
16674 vowelrecmd='vowelrecogv3 tr:yama te:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T
:100 tt:0:150:150 DISP:0 > /dev/null'
16675 ### mean distance of poles of 'aiueo' of yama and tr:yama are as follows.
16676 # 0.244922* 0.362845 0.273489 0.332626 #te:yama-a->yama-a
16677 # 0.267139 0.201203* 0.228153 0.237517 #te:yama-i->yama-i
16678 # 0.238074 0.231723 0.104939* 0.146233 #te:yama-u->yama-u
16679 # 0.240221 0.189822 0.208820 0.183532* #te:yama-e->yama-e
16680 # 0.144776 0.188260 0.195530 0.159814 0.124884* #te:yama-o->yama-o
16681 ###te:yama-aiueo-t0+150 are recognized as oeuuo (rate2/5).###
16682
16683 cmd='vowelrecogv3 te:yama tr:yama te:take k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:100 tt
:0:150:0:150 DISP:0 npt:0.7:1.1:179 > /dev/null'
16684 ### mean distance of poles of 'aiueo' of yama and tr:take are as follows.
16685 # 0.194607 0.340131 0.260854 0.268021 #te:yama-a->yama-a
16686 # 0.336227 0.131903 0.115408 0.126770* #te:yama-i->take-i
16687 # 0.326748 0.301349 0.122559* 0.245673 #te:yama-u->take-u
16688 # 0.327160 0.227205 0.154628 0.140343* #te:yama-e->take-e
16689 # 0.230497 0.218721 0.242605 0.169477 0.159118* #te:yama-o->take-o
16690 ###te:yama-aiueo-t0+150 are recognized as oeueo (rate3/5).###
16691
16692 cmd='vowelrecogv3 te:yama tr:take k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt
:0:150:0:150 DISP:0 > /dev/null'
16693 ### mean distance of poles of 'aiueo' of yama and tr:take are as follows.
16694 # 0.207353* 0.030099 0.029632 0.031408 #te:yama-a->take-a
16695 # 0.035141 0.032877 0.033392 0.034988 #te:yama-i->take-i
16696 # 0.033079 0.032858 0.031489 #te:yama-u->take-u
16697 # 0.033658 0.032565 0.031865 0.032181 #te:yama-e->take-e
16698 # 0.027551 0.027317 0.026712* 0.030141 #te:yama-e->take-e
16699 # 0.027551 0.027317 0.026712* 0.030141 #te:yama-e->take-e
16700 ###te:yama-aiueo-t0+150 are recognized as aeeee (rate2/5).###

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16701  cogv3 te:fuku tr:sanuki:take:yama k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:
16702  cogv3 te:fuku tr:sanuki:take:yama k:9 N:1 m:M4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:
       100:0:100 DISP:0 > /dev/null
16703  ###te:fuku-aiueo-t0+100 are recognized as auuuu (rate=2/5).###
16704  vowelrecogv3 te:fuku tr:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0
       T:100 tt:0:100:0:100 DISP:0 > /dev/null
16705  ###te:fuku-aiueo-t0+150 are recognized as uuuuu (rate=1/5).###
16706  vowelrecogv3 te:fuku tr:sanuki:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T
       :100 tt:0:150:0:150 DISP:0 > /dev/null
16707  ###te:fuku-aiueo-t0+150 are recognized as aeuee (rate=3/5).###
16708  vowelrecogv3 te:fuku tr:sanuki:take:yama k:54 N:16 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0
       T:100 tt:0:150:0:150 DISP:0 > /dev/null
16709  vowelrecogv3 te:fuku tr:take:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt
       :0:150:0:150 DISP:0 > /dev/null
16710  #speaker recognition
16711  vowelrecogv3 te:s-fuku tr:s-fuku:s-yama k:54 N:16 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffM
       ode:0 T:100 tt:0:150 DISP:0 > /dev/null
16712  #speaker recognition
16713  vowelrecogv3 te:s-fuku tr:s-fuku:s-take k:54 N:6 spkr:1 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffM
       ode:0 T:100 tt:0:150:150 DISP:0 > /dev/null
16714  ###(2) Single CAN2 with k:9 N:1 LeaveOneOut (2+4+5+5+4)/6*5=25/30=80.3%
16715  cmd='vowelrecogv3 tr:kita:kosi:sanuki:take:yama te:kita k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.
16716  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16717  ### mean distance of M4 of fuku and tr:kita are as follows.
16718  # 0.407477*  0.751727   0.409287   0.551319   0.562409  #te:fuku-a->sanuki-a
16719  # 0.480183   0.502228   0.411536*  0.446663   0.492282  #te:fuku-i->sanuki-u
16720  # 0.491311   0.480237   0.234227*  0.379784   0.504245  #te:fuku-u->sanuki-u
16721  # 0.579964   0.477857   0.326635*  0.427063   0.633442  #te:fuku-e->take-e
16722  # 0.497316   0.641807   0.404805*  0.503510   0.543913  #te:fuku-o->take-u
16723  ###te:fuku-aiueo-t150+300 are recognized as auuuu (rate=2/5).###
16724  cmd='vowelrecogv3 tr:fuku:kosi:sanuki:take:yama te:kita k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20
16725  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16726  ### mean distance of M4 of kita and tr:fuku are as follows.
16727  # 0.587487*  1.009897   0.983023   1.017119   0.873380  #te:kita-a->kosi-a
16728  # 0.805538   0.308058*  0.511738   0.363631   0.720539  #te:kita-i->kosi-i
16729  # 0.615258   0.700063   0.458601*  0.701968   0.581688  #te:kita-u->take-u
16730  # 0.525575   0.358674   0.409994   0.293850*  0.479824  #te:kita-e->take-e
16731  # 0.361517*  0.724436   0.829068   0.879538   0.465413  #te:kita-o->sanuki-a
16732  ###te:kita-aiueo-t150+300 are recognized as aiuea (rate=4/5).###
16733  cmd='vowelrecogv3 tr:fuku:kita:sanuki:take:yama te:kosi k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20
16734  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16735  ### mean distance of M4 of kosi and tr:fuku are as follows.
16736  # 0.823336   0.345456*  0.587047   0.526930   0.781829  #te:kosi-a->fuku-i
16737  # 0.606682   0.703919   0.414796*  0.575287   0.687686  #te:kosi-i->kita-i
16738  # 0.739452   0.453380   0.370635   0.182255*  0.769132  #te:kosi-e->sanuki-e
16739  # 0.291458   0.498901   0.458769   0.678724   0.168524* #te:kosi-o->sanuki-o
16740  cmd='vowelrecogv3 tr:fuku:kita:kosi:take:yama te:sanuki k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20
16741  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16742  ### mean distance of M4 of sanuki and tr:fuku are as follows.
16743  # 0.271751*  0.480614   0.496269   0.610206   0.332107  #te:sanuki-a->yama-a
16744  # 1.284891   0.231208*  1.010507   0.343008   1.268682  #te:sanuki-i->yama-i
16745  # 0.392792   0.429633   0.240981*  0.253015   0.414857  #te:sanuki-u->fuku-u
16746  # 0.694350   0.400196   0.347110   0.127758*  0.703931  #te:sanuki-e->yama-e
16747  # 0.353054   0.496028   0.525314   0.718309   0.157750* #te:sanuki-o->kosi-o
16748  ###te:sanuki-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16749  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20
16750  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16751  ### mean distance of M4 of take and tr:fuku are as follows.
16752  # 0.608058*  0.890702   0.842051   0.871414   0.802184  #te:take-a->sanuki-a
16753  # 1.005218   0.284495*  0.708930   0.588350   1.022645  #te:take-i->kita-i
16754  # 0.399036   0.433615   0.270047*  0.349060   0.416700  #te:take-u->fuku-u
16755  # 0.771077   0.336446   0.475354   0.322768*  0.749987  #te:take-e->sanuki-e
16756  # 0.703635   1.202413   1.264412   1.367676   0.685656* #te:take-o->kita-o
16757  ###te:take-aiueo-t150+300 are recognized as aiuea (rate=4/5).###
16758  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take te:yama k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20
16759  DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16760  ### mean distance of M4 of yama and tr:fuku are as follows.
16761  # 0.215484*  0.517538   0.438501   0.611386   0.332810  #te:yama-a->sanuki-a
16762  # 1.152698   0.198878*  0.795734   0.422780   1.176954  #te:yama-i->sanuki-i
16763  # 0.388033   0.581574   0.215042*  0.374119   0.495175  #te:yama-u->sanuki-u
16764  # 0.631126   0.432743   0.276713   0.147546*  0.656288  #te:yama-e->sanuki-e
16765  # 0.625210*  0.963530   0.965306   0.997783   0.890018  #te:yama-o->kosi-a
16766  ###(2+1) single CAN2 for speaker and vowel recognition with t1=150?? SR28/30 VR28/30
16767  # 0.074079*  0.215606   0.250665   0.327101   0.198446  #te:fuku-a->fuku-a       1,1
16768  # 0.197040*  0.198274   0.301202   0.198351   0.328599  #te:fuku-i->fuku-a NG4vr 1,0
16769  # 0.245373   0.257898   0.105143*  0.263542   0.330746  #te:fuku-u->fuku-u       1,1
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16770  # 0.230027   0.132445   0.189227   0.114241*  0.270759  #te:fuku-e->fuku-e       1,1
16771  # 0.160537*  0.216037   0.279859   0.257774   0.261205  #te:fuku-o->fuku-a NG4vr 1,0
16772  ###te:fuku-aiueo-t150+300 are recognized as aauea (rate=3/5).###
16773  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kita k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:
1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null
16774  ### mean distance of M4 of kita and tr:fuku are as follows.
16775  # 1.044069   1.086252   0.997833   1.022022*  0.991542  #te:kita-a->kita-a       1,1
16776  # 0.770447   0.143665*  0.530783   0.465586   0.822982  #te:kita-i->kita-i       1,1
16777  # 0.562055   0.717480   0.093536*  0.714193   0.722162  #te:kita-u->kita-u       1,1
16778  # 0.498324   0.469301   0.469318   0.176524*  0.628839  #te:kita-e->kita-e       1,1
16779  # 0.496398   0.834579   0.885334   0.954428   0.179584* #te:kita-o->kita-o       1,1
16780  ###te:kita-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16781  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kosi k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:
1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null
16782  ### mean distance of M4 of kosi and tr:fuku are as follows.
16783  # 0.185322*  0.580732   0.595732   0.640224   0.580588  #te:kosi-a->kosi-a       1,1
16784  # 0.827653   0.115519*  0.666090   0.702691   0.841714  #te:kosi-i->kosi-i       1,1
16785  # 0.630736   0.692600   0.022351*  0.655244   0.638011  #te:kosi-u->kosi-u       1,1
16786  # 0.710037   0.587906   0.482442   0.035513*  0.825029  #te:kosi-e->kosi-e       1,1
16787  # 0.292907   0.666376   0.597350   0.703346   0.140222* #te:kosi-o->sanuki-o NG4sr 0,1
16788  ###te:kosi-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16789  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:sanuki k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.
7:1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null
16790  ### mean distance of M4 of sanuki and tr:fuku are as follows.
16791  # 0.310568*  0.550856   0.547341   0.622268   0.262969  #te:sanuki-a->sanuki-a   1,1
16792  # 1.274672   0.030978*  0.999409   0.492498   1.355704  #te:sanuki-i->sanuki-i   1,1
16793  # 0.426487   0.444219   0.099343*  0.346805   0.547340  #te:sanuki-u->sanuki-u   1,1
16794  # 0.657349   0.521560   0.375520   0.060190*  0.775002  #te:sanuki-e->sanuki-e   1,1
16795  # 0.273431   0.681858   0.642811   0.723982   0.109500* #te:sanuki-o->sanuki-o   1,1
16796  ###te:sanuki-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16797  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:
1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null
16798  ### mean distance of M4 of take and tr:fuku are as follows.
16799  # 0.145062*  0.736448   0.778180   0.891481   0.683634  #te:take-a->take-a       1,1
16800  # 1.043134   0.309448*  0.752427   0.406680   1.137431  #te:take-i->kita-i NG4sr 0,1
16801  # 0.363631   0.416963   0.136737*  0.367270   0.521073  #te:take-u->take-u       1,1
16802  # 0.768418   0.385483   0.505175   0.068935*  0.858788  #te:take-e->take-e       1,1
16803  # 0.867934   1.364309   1.390461   1.429077   0.062832* #te:take-o->take-o       1,1
16804  ###te:take-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16805  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:yama k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:
1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null
16806  ### mean distance of M4 of yama and tr:fuku are as follows.
16807  # 0.035035*  0.590513   0.550196   0.593218   0.300590  #te:yama-a->yama-a       1,1
16808  # 1.163894   0.021790*  0.897307   0.467390   1.252698  #te:yama-i->yama-i       1,1
16809  # 0.456522   0.528176   0.108153*  0.452975   0.564595  #te:yama-u->yama-u       1,1
16810  # 0.606255   0.538784   0.312119   0.019809*  0.721754  #te:yama-e->yama-e       1,1
16811  # 0.879002   1.080189   1.008249   1.046982   0.030328* #te:yama-o->yama-o       1,1
16812  ###te:yama-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
16813  ###(3) Single CAN2 with k:9 N:1 m:poles4 LeaveOneOut (1+3+4+5+3+4)/6*5=20/30=66.6% (see(6)) NG:a2ilu
16814  0e4c3
16815  cmd='vowelrecogv3 tr:kita:kosi:sanuki:take:yama te:fuku k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1
:20 DiffMode:0 T:100 tt:0:150:150:150:150 DISP:0 > /dev/null'
16816  ### mean distance of poles of 'aiueo' of fuku and tr:fuku are as follows.
16817  # 0.309475   0.291781*  0.307753   0.293500   0.306913  #te:fuku-a->fuku-i NG
16818  # 0.270249   0.219370   0.255125   0.196988*  0.272130  #te:fuku-i->kita-e
16819  # 0.252974   0.281954   0.132941*  0.227304   0.292820  #te:fuku-u->sanuki-u
16820  # 0.314132   0.194152*  0.260530   0.213385   0.317982  #te:fuku-e->kita-i NG
16821  # 0.256175   0.200744   0.236747   0.194371*  0.249708  #te:fuku-o->fuku-o
16822  ###te:fuku-aiueo-t150+300 are recognized as ieuie (rate=1/5).###
16823  cmd='vowelrecogv3 tr:fuku:kosi:sanuki:take:yama te:kita k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1
:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null'
16824  ### mean distance of poles of 'aiueo' of kita and tr:kita are as follows.
16825  # 0.098756*  0.350141   0.283625   0.291590   0.200658  #te:kita-a->kosi-a
16826  # 0.299346   0.173632*  0.230377   0.214466   0.254279  #te:kita-i->kosi-i
16827  # 0.216082   0.326544   0.145216*  0.263606   0.221851  #te:kita-u->sanuki-u
16828  # 0.281925   0.212205*  0.271630   0.264023   0.302068  #te:kita-e->fuku-i NG
16829  # 0.125793*  0.320061   0.220061   0.225602   0.172519  #te:kita-o->kosi-a
16830  ###te:kita-aiueo-t150+300 are recognized as aiuia (rate=3/5).###
16831  cmd='vowelrecogv3 tr:fuku:kita:sanuki:take:yama te:kosi k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1
:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null'
16832  ### mean distance of poles of 'aiueo' of kosi and tr:kosi are as follows.
16833  # 0.204819   0.361258   0.277393   0.267755   0.203322* #te:kosi-a->kosi-o NG
16834  # 0.256101   0.158774*  0.173090   0.199107   0.200671  #te:kosi-i->kita-i
16835  # 0.325433   0.370328   0.248025*  0.334560   0.370216  #te:kosi-u->kosi-u
16836  # 0.323349   0.177268   0.156984   0.069353*  0.291818  #te:kosi-e->kosi-e
16837  # 0.136576   0.236344   0.202270   0.131693   0.034828* #te:kosi-o->kosi-o
16838  ###te:kosi-aiueo-t150+300 are recognized as oiueo (rate=4/5).###
16839  cmd='vowelrecogv3 tr:fuku:kita:kosi:take:yama te:sanuki k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1
:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null'
16840  # 0.204819   0.198274   0.267755   0.173090   0.210952  #te:sanuki-a->yama-a
16841  # 0.245373   0.257898   0.092067*  0.319407   0.134948  #te:sanuki-a->yama-a
```

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16988  ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
16989  #   0.057653*  0.322430  0.253325  0.198798  0.271757  #te:kita-o->kita-a  1,1
16990  #   0.246101  0.127711*  0.224054  0.211699  0.246910  #te:kita-i->kita-i  1,1
16991  #   0.203900  0.294835  0.068115*  0.282015  0.240572  #te:kita-u->kita-u  1,1
16992  #   0.274209  0.201349  0.272016  0.096163*  0.291090  #te:kita-e->kita-e  1,1
16993  #   0.124806  0.244072  0.233601  0.152224  0.086975*  #te:kita-o->kita-o  1,1
16994  ####te:kita-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
16995  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kosi k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null'
16996  ### mean distance of poles of 'aiueo' of kosi and tr:fuku are as follows.
16997  #   0.033023*  0.346225  0.260107  0.245950  0.230716  #te:kosi-a->kosi-a  1,1
16998  #   0.245311  0.069442*  0.168449  0.203290  0.213490  #te:kosi-i->kosi-i  1,1
16999  #   0.302772  0.316462  0.012245*  0.327591  0.327928  #te:kosi-u->kosi-u  1,1
17000  #   0.223439  0.175857  0.176020  0.012517*  0.274037  #te:kosi-e->kosi-e  1,1
17001  #   0.134790  0.237339  0.204792  0.132120  0.034353*  #te:kosi-o->kosi-o  1,1
17002  ####te:kosi-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17003  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:sanuki k:9 N:1 m:poles4 dir:../onsei07 rsa:2:
0.7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null'
17004  ### mean distance of poles of 'aiueo' of sanuki and tr:fuku are as follows.
17005  #   0.016996*  0.300208  0.209439  0.136838  0.209986  #te:sanuki-a->sanuki-a  1,1
17006  #   0.234810  0.007911*  0.173560  0.150372  0.212071  #te:sanuki-i->sanuki-i  1,1
17007  #   0.233995  0.251527  0.040963*  0.195887  0.246538  #te:sanuki-u->sanuki-u  1,1
17008  #   0.251313  0.170868  0.155461  0.018511*  0.253067  #te:sanuki-e->sanuki-e  1,1
17009  #   0.121148  0.229381  0.217217  0.131037  0.037003*  #te:sanuki-o->sanuki-o  1,1
17010  ####te:sanuki-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17011  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null'
17012  ### mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
17013  #   0.109332*  0.330241  0.271895  0.321348  0.261746  #te:take-a->take-a  1,1
17014  #   0.194954  0.191285*  0.256492  0.220032  0.263890  #te:take-i->take-i  0,1
17015  #   0.236305  0.032108  0.060772*  0.147681  0.254239  #te:take-u->take-u  1,1
17016  #   0.218823  0.183011  0.210379  0.146165*  0.221799  #te:take-e->take-e  1,1
17017  #   0.125036  0.178929  0.213499  0.163452  0.026177*  #te:take-o->take-o  1,1
17018  ####te:take-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17019  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:yama k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0
.7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null'
17020  ### mean distance of poles of 'aiueo' of yama and tr:fuku are as follows.
17021  #   0.049321*  0.345569  0.255147  0.240279  0.140147  #te:yama-a->yama-a  1,1
17022  #   0.304833  0.045764*  0.119299  0.139637  0.205557  #te:yama-i->yama-i  1,1
17023  #   0.285665  0.232124  0.071507*  0.218586  0.286403  #te:yama-u->yama-u  1,1
17024  #   0.226731  0.197169  0.164309  0.057605*  0.219443  #te:yama-e->yama-e  1,1
17025  #   0.118203  0.231300  0.253333  0.163786  0.066238*  #te:yama-o->yama-o  1,1
17026  ####te:yama-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17027  #?#mean distance of 'aiueo' of kita and tr:fuku are as follows.
17028  #?#   0.194954  0.191285*  0.256492  0.220032  0.263890  #te:kita-a->take-a  1,1
17029  0 DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null
17029  #?#cmd:'vowelrecogv3 tr:kita:kosi:sanuki:take:yama te:fuku k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.
7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 > /dev/null'
17030  #?#### mean distance of poles of 'aiueo' of fuku and tr:kita are as follows.
17031  #?###   0.258898  0.265763  0.285528  0.246857*  0.285202  #te:fuku-a->kita-a
17032  #?###   0.263791  0.176096*  0.229159  0.190222  0.271550  #te:fuku-i->kita-i
17033  #?###   0.265185  0.212757  0.120204*  0.227988  0.219527  #te:fuku-u->sanuki-u
17034  #?###   0.304833  0.168526  0.227988  0.165942*  0.294790  #te:fuku-e->take-e
17035  #?###   0.263908  0.175806  0.212883  0.157135*  0.255805  #te:fuku-o->take-e
17036  #?####te:fuku-aiueo-t150+300 are recognized as eiuee  (rate=3/5).###
17037  #?###   0.226731  0.197169  0.164309  0.057605*  0.219443  #te:kita k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.
7:1:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
17038  ###(5) bagging LeaveOneOut  (3+5+4+5+5)/6*5=27/30=90%
17039  #?###mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
17040  #?###   0.099342*  0.319351  0.262370  0.276596  0.192469  #te:kita-a->kosi-a
17041  #?###   0.199110  0.149261*  0.198966  0.165193  0.196386  #te:kita-i->take-i
17042  #?###   0.188953  0.243164  0.151663*  0.259386  0.212311  #te:kita-u->take-u
17043  #?###   0.243456  0.169529*  0.253523  0.174155  0.231376  #te:kita-e->fuku-i
17044  #?###   0.115694*  0.218111  0.205193  0.157609  0.144589  #te:kita-o->kosi-a
17045  #?####te:kita-aiueo-t150+300 are recognized as aiuia  (rate=3/5).###
17046  cmd:'vowelrecogv3 tr:fuku:kosi:sanuki:take:yama te:kita k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17047  ### mean distance of poles of 'aiueo' of fuku and tr:fuku are as follows.
17048  #   0.056198  0.059467  0.059382  0.056635  0.056120*  #te:fuku-a->kita-o  NG
17049  #   0.056657  0.053936*  0.055289  0.056590  0.056480  #te:fuku-i->kita-i
17050  #   0.061087  0.059139  0.059202  0.057085*  0.059087  #te:fuku-u->sanuki-e  NG
17051  #   0.059791  0.061926  0.061309  0.055293*  0.056667  #te:fuku-e->take-e
17052  #   0.055147  0.054828  0.054598  0.052704  0.052388*  #te:fuku-o->kosi-a
17053  ####te:fuku-aiueo-t150+300 are recognized as oleeo  (rate=3/5).###
17054  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kita k:9 N:1 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17056  ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
17057  #   0.050618*  0.054102  0.055431  0.055521  0.052133  #te:kita-a->kosi-a
17058  #   0.062392  0.055933*  0.056631  0.059023  0.057376  #te:kita-i->take-i
17059  #   0.061795  0.056116  0.055021*  0.059073  0.056462  #te:kita-u->take-u
17060  #   0.060510  0.059355  0.058568  0.054204*  0.055416  #te:kita-e->sanuki-e
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17061  #   0.058713  0.058778  0.059003  0.056355  0.053953*  #te:kita-o->sanuki-o
17062  ####te:kita-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17063  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kosi k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17064  ### mean distance of poles of 'aiueo' of kosi and tr:fuku are as follows.
17065  #   0.054705*  0.058912  0.058987  0.058338  0.056698  #te:kosi-a->kita-a
17066  #   0.062180  0.054514*  0.055519  0.055905  0.055605  #te:kosi-i->sanuki-i
17067  #   0.062521  0.056265  0.055078*  0.057046  0.056634  #te:kosi-u->take-u
17068  #   0.061498  0.058589  0.057690  0.052556*  0.055913  #te:kosi-e->sanuki-e
17069  #   0.059503  0.057917  0.055851  0.052966*  0.054617  #te:kosi-o->sanuki-o  NG
17070  ####te:kosi-aiueo-t150+300 are recognized as aiuee  (rate=4/5).###
17071  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:sanuki k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17072  ### mean distance of poles of 'aiueo' of sanuki and tr:fuku are as follows.
17073  #   0.056275*  0.058654  0.058116  0.058299  0.058956  #te:sanuki-a->kosi-a
17074  #   0.060394  0.051506*  0.053326  0.053256  0.053933  #te:sanuki-i->kosi-i
17075  #   0.058962  0.053229  0.055868  0.052411*  0.052976  #te:sanuki-u->sanuki-u
17076  #   0.059426  0.059461  0.053971*  0.056893  0.055077  #te:sanuki-e->fuku-e
17077  #   0.056873  0.057829  0.054001  0.057365  0.052141*  #te:sanuki-o->kita-o
17078  ####te:sanuki-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17079  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17080  ### mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
17081  #   0.051554*  0.053722  0.054502  0.054632  0.054670  #te:take-a->take-a
17082  #   0.060580  0.054463*  0.058399  0.058399  0.055588  #te:take-i->kosi-i
17083  #   0.062573  0.057417  0.056111*  0.057915  0.057156  #te:take-u->kosi-u
17084  #   0.059038  0.059038  0.055352  0.052304*  0.052740  #te:take-e->kita-e
17085  #   0.056824  0.058350  0.055880  0.053431  0.052502*  #te:take-o->yama-o
17086  ####te:take-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17087
17088  ###(5')=improved than ###(5)?NO!!!! bagging LeaveOneOut  2+4+5+2+3=16/30  (3+5+4+5+5)/6*5=27/30=90%
17089  cmd:'vowelrecogv3 tr:kita:kosi:sanuki:take:yama te:fuku k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17090  ### mean distance of poles of 'aiueo' of fuku and tr:kita are as follows.
17091  #   0.032046*  0.034921  0.035027  0.033366  0.033366  #te:fuku-a->sanuki-a
17092  #   0.034453  0.033905  0.033602  0.033091*  0.035021  #te:fuku-i->take-e
17093  #   0.033967  0.034585  0.033168  0.033742*  0.034274  #te:fuku-e->take-e
17094  #   0.035658  0.035337  0.035399  0.034658*  0.034892  #te:fuku-e->sanuki-e
17095  #   0.033620*  0.033936  0.034036  0.034567  0.034078  #te:fuku-o->sanuki-e
17096  ####te:fuku-aiueo-t150+300 are recognized as aeeea  (rate=2/5).###
17097  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kita k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17098  ### mean distance of poles of 'aiueo' of kita and tr:fuku are as follows.
17099  #   0.030577*  0.031764  0.032993  0.033001  0.032099  #te:kita-a->sanuki-i
17100  #   0.033548  0.029792*  0.032083  0.032644  0.032153  #te:kita-i->kosi-i
17101  #   0.033520  0.033947  0.033765  0.032897  0.032523*  #te:kita-u->take-u
17102  #   0.034611  0.033765  0.035119  0.031658*  0.034417  #te:kita-e->sanuki-e
17103  #   0.030415  0.032216  0.034681  0.032402  0.029480*  #te:kita-o->take-o
17104  ####te:kita-aiueo-t150+300 are recognized as aieeo  (rate=4/5).###
17105  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:kosi k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17106  ### mean distance of poles of 'aiueo' of kosi and tr:fuku are as follows.
17107  #   0.032046*  0.032627  0.033168  0.033227  0.031113  #te:kosi-a->kita-a
17108  #   0.030717  0.027749*  0.028190  0.028719  0.029981  #te:kosi-i->kita-i
17109  #   0.030362  0.031078  0.033003  0.030089*  0.031257  #te:kosi-u->kita-u
17110  #   0.030610  0.031709  0.033328  0.030470*  0.031475  #te:kosi-e->kita-e
17111  #   0.030406  0.031078  0.033003  0.029863  0.029188*  #te:kosi-o->kita-o
17112  ####te:kosi-aiueo-t150+300 are recognized as aiueo  (rate=5/5).###
17113  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:sanuki k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17114  ### mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
17115  #   0.032768  0.033974  0.034174  0.033794  0.032464*  #te:sanuki-a->take-o
17116  #   0.032486*  0.035533  0.035221  0.036364  0.034407  #te:sanuki-i->sanuki-i
17117  #   0.035032  0.030932*  0.033741  0.035865  0.036438  #te:sanuki-u->sanuki-u
17118  #   0.032683  0.030249  0.033498  0.033103  0.032636  #te:sanuki-e->sanuki-e
17119  #   0.031631  0.031504*  0.031789  0.033308  0.033308  #te:sanuki-o->sanuki-e
17120  #   0.034520  0.033511  0.033352  0.032132  0.032911  #te:sanuki-o->take-e
17121  ####te:sanuki-aiueo-t150+300 are recognized as oeieo  (rate=2/5).###
17122  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:take k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17123  ### mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
17124  #   0.035032  0.030932*  0.035865  0.033741  0.036438  #te:take-a->sanuki-a
17125  #   0.032683  0.030396  0.030292*  0.033927  0.032636  #te:take-i->sanuki-i
17126  #   0.031631  0.033671  0.031504*  0.031970  0.033308  #te:take-u->sanuki-u
17127  #   0.029153*  0.031352  0.032771  0.033004  0.032132  #te:take-e->sanuki-a
17128  ####te:take-aiueo-t150+300 are recognized as aiuia  (rate=3/5).###
17129  cmd:'vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:yama k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
:20  DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17130  ### mean distance of poles of 'aiueo' of yama and tr:fuku are as follows.
17131  #   0.062671  0.027329*  0.030420  0.028862  0.027631  #te:yama-a->sanuki-a
17132  #   0.062671  0.029237*  0.032981  0.031169  0.033834  #te:yama-i->take-i
17133  #   0.033068  0.033217  0.033130  0.031861*  0.034559  #te:yama-u->take-e
```

17134 #   0.030845   0.030888   0.030923   0.028556*   0.030967   #te:yama-e->sanuki-e
17135 #   0.026742   0.025617   0.026893   0.025096*   0.028425   #te:fuku-u->take-e
17136 ###te:yama-aiueo-t150+300 are recognized as aieee (rate=3/5).###
17137
17138 ###(5+1) bagging LeaveOneOut for speaker recognition with tl=150??   SR28/30 VR27/30
17139 cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:fuku k:27 N:6 m:poles4 dir:../onsei07 rsa:2:
0.7:1:20 DiffMode:0 T:100 tt:0:150:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17140 ### mean distance of poles of 'aiueo' of fuku and tr:fuku are as follows.
17141 #   0.053072*   0.059117   0.054393   0.053162   0.055543   #te:fuku-a->fuku-a   1,1

... (numeric data columns continue for lines 17142–17206) ...

17207 *** 0.069185   0.069599   0.070633   0.070116*   0.073392   #te:fuku-i->fuku-e
17208 *** 0.070980   0.074414   0.073204   0.070836*   0.075556   #te:fuku-u->fuku-e
17209 *** 0.069909   0.074415   0.072354   0.066472*   0.072118   #te:fuku-e->fuku-a
17210 *** 0.064937*   0.069973   0.067735   0.065884   0.068124   #te:fuku-o->fuku-a
17211 *** ###te:fuku-aiueo-t150+300 are recognized as aeeoa (rate=2/5).###
17212
17213
17214 ###(5''') bagging LeaveOneOut for speaker recognition with tl=800??   6NG4vr+6NG4sr
17215 cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:fuku k:54 N:6 m:poles4 dir:../onsei07 rsa:2:
0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
17216 ### mean distance of poles of 'aiueo' of fuku and tr:fuku are as follows.

```
17419  for name in take ; do for v in a i u e o; do
17420  rm -rf result-ensrs2ge/tmp;
17421  d=".../onsei07"
17422  #tf=0:tl=200:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=200:pt=`expr ${pf} + ${pl}`      # NG for take-i pl=200
17423  #tf=0:tl=400:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=200:pt=`expr ${pf} + ${pl}`      # OK for take-i pl=200
17424  #tf=150:tl=150:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=30:pt=`expr ${pf} + ${pl}`     # NG for take-i pl=200
17425  tf=150:tl=150:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=30:pt=`expr ${pf} + ${pl}`      # vrry OK for take-i
17426  tf=150:tl=150:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=150:pt=`expr ${pf} + ${pl}`     # vrry OK for take-i
17427  #rsa=rsa:2:0.7:1:20 k=27 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
17428  #rsa=rsa:2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;date
17429  #rsa=rsa:2:0.7:1:20 k=27 N=9 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;date
17430  cmd="./tspredv3 $d/${name}-${v}.dat ${tf}-${tl}:${pt}:${pf}:${pt}-${name}-$v.dat
0:0:0-${rsa} k:${k} y:0:0:0 ${g} ${w} T:${T}` vt:0.5 vr:10"
17431  $cmd >/dev/null :date
17432  echo "cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k${k}N${N}t${pf}-${pt}-$name-$v.dat
v.dat"
17433  cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k${k}N${N}t${pf}-${pt}-$name-$v.dat
17434  echo "### Done for $cmd ###"
17435  done done
17436  ### the followings are for 30 points evaluation, but we have 150data predictions.
17437  #MSE1.649875e+05(NMSE3.850680e-01)(n30) 150-300:300-330k27N6mp1:1:1.000000H1-y take-a
17438  #MSE2.902344e+03(NMSE1.561294e-01)(n30) 150-300:300-330k27N6mp1:1:1.000000H1-y take-i
17439  #MSE9.295897e+03(NMSE2.119024e-02)(n30) 150-300:300-330k27N6mp1:1:1.000000H1-y take-u
17440  #MSE3.608968e+04(NMSE1.248034e-01)(n30) 150-300:300-330k27N6mp1:1:1.000000H1-y take-e
17441  #MSE2.411451e+03(NMSE8.761330e-03)(n30) 150-300:300-330k27N6mp1:1:1.000000H1-y take-o
17442
17443  #MSE1.126377e+06(NMSE1.128643e+00)(n150) 150-300:300-450k27N6mp1:1:1.000000H1-y take-a
17444  #MSE1.005699e+04(NMSE4.062435e-01)(n150) 150-300:300-450k27N6mp1:1:1.000000H1-y take-i
17445  #MSE6.100223e+05(NMSE4.970395e-01)(n150) 150-300:300-450k27N6mp1:1:1.000000H1-y take-u
17446  #MSE1.466781e+05(NMSE5.694093e-01)(n150) 150-300:300-450k27N6mp1:1:1.000000H1-y take-e
17447  #MSE7.435518e+04(NMSE3.473831e-01)(n150) 150-300:300-450k27N6mp1:1:1.000000H1-y take-o
17448
17449  ##(9'') bagging predictions for speaker recognition ###(11'')???
17450  for name in s-take ; do for v in a i u e o; do
17451  rm -rf result-ensrs2ge/tmp:
17452  d=".../onsei07"
17453  tf=800:tl=800:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=50:pt=`expr ${pf} + ${pl}`      # vrry OK for take-i
17454  tf=0:tl=800:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=100:pt=`expr ${pf} + ${pl}`       # vrry OK for take-i
17455  #rsa=rsa:2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 :date
17456  rsa=rsa:2:0.7:1:20 k=54 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;date
17457  cmd="./tspredv3 $d/${name}-${v}.dat ${tf}-${tl}:${pt}:${pf}:${pt} ${DM} N:$N-$N1 M:1-1:1 ib:0:
0:0:0-${rsa} k:${k} y:0:0:0 ${g} ${w} T:${T}` vt:0.5 vr:10"
17458  $cmd >/dev/null :date
17459  echo "cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k${k}N${N}t${pf}-${pt}-$name-$v.dat
v.dat"
17460  cp result-ensrs2ge/predictDM0:$pf-$pt.dat ../onsei07/predictDM0:k${k}N${N}t${pf}-${pt}-$name-$v.dat
17461  echo "### Done for $cmd ###"
17462  done done
17463  ##now executing 070207 finished
17464  #MSE3.103290e+04(NMSE6.284037e-01) 800-1600:1600-1650k54N6mp1:1:1.000000H1-y s-taka-a good onl
17465  #MSE5.016779e+02(NMSE6.303207e-01) 800-1600:1600-1650k54N6mp1:1:1.000000H1-y s-taka-i good onl
17466  #MSE9.183176e+02(NMSE3.631833e-01) 800-1600:1600-1650k54N6mp1:1:1.000000H1-y s-taka-u good onl
17467  #MSE4.709621e+03(NMSE2.866689e-01) 800-1600:1600-1650k54N6mp1:1:1.000000H1-y s-taka-e good onl
17468  #MSE9.486100e+01(NMSE1.193815e-01) 800-1600:1600-1650k54N6mp1:1:1.000000H1-y s-taka-o good onl
17469
17470  #MSE5.450605e+04(NMSE9.773647e-01)(n100) 0-800:800-900k54N6mp1:1:1.000000H1-y
17471  ###(10) making s(t) by singleCAN2
17472  for name in fuku kita kosi sanuki take yama; do for v in a i u e o; do
17473  rm -rf result-ensrs2ge/tmp:
17474  d=".../onsei07"  # the directory storing the onsei-data files
17475  rsa=rsa:-1:0.7:1:20 k=9 N=1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
17476  #tl=100:tl=2000:tt=`expr ${tf} + ${tl}`:pf=$tt:pl=$tl:pt=`expr ${pf} + ${pl}`
17477  ./tspredv3 $(d)/${name}-${v}.dat ${tf}-${tl}:${pt}:${pf}:${pt} ${DM} $[H} N:${N}-${N}:1 M:1-1:1 ssp:
1 ${rsa} k:${k} y:0:0:1 ${g} T:${T}` vt:0.5 vr:10 >/dev/null
17478  ###fo save
17479  cd result-ensrs2ge:
17480  #f="${d}/s-${name}-N${N}t${pf}-${tt}${pl}${pf}-${pt}-${v}"
17481  #f="${d}/s-N${N}t${pf}-${tt}${pl}${pf}-${pt}-$name-${v}"
17482  #f="${d}/s-${name}-${v}"
17483  p="predictDM0:${pf}.dat"
17484  p="predictDM0:$k-${pt}.dat"
17485  ##for display error from here
17486  cat $[p} |awk '{print $3-$1}' > ../${f}.dat
17487  cat > disp.plt <<EOF
17488  plot ".../${f}.dat" using 0:(\$3-\$1) t ".../${f}" w lp; pause -1 "Hit return key to quit"
17489  #plot ".../${f}.dat" using 0:1 t "${f}" w lp: pause -1 "Hit return key to quit"
17490  #plot ".../${f}.dat" using 0:1 t "${f}" w lp: pause -1 "Hit return key to quit"
```

```
17491  EOF
17492  xterm -geometry 50x5-0+0 -e gnuplot -geometry 300x210 disp.plt&
17493  ###for display error to here
17494  cd ..'
17495  echo "### Done for ${f}.dat ###"
17496  done ; done
17497  ### making s(t) to here.
17498
17499  ###(11)#speaker recognition ? Speech recognition (1+3+4+4+5+3)/30=20/30=66.6%
17500  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17501  ### mean distance of poles of 'aiueo' of s-fuku and tr:s-fuku are as follows.
17502  # 0.042245   0.040060*  0.078731   0.042355   0.097053   #te:s-fuku-a->s-yama-a
17503  # 0.090989*  0.094106   0.129363   0.092760   0.133079   #te:s-fuku-i->s-fuku-a
17504  # 0.063530   0.066177   0.101932   0.056820*  0.095917   #te:s-fuku-u->s-fuku-u
17505  # 0.147686   0.093842   0.157976   0.127572   0.089483*  #te:s-fuku-e->s-fuku-o
17506  # 0.145533   0.099547   0.120984   0.148196   0.082366*  #te:s-fuku-o->s-fuku-o
17507  ###te:s-fuku-aiueo-t800+1600 are recognized as iaeoo (rate=1/5).###
17508  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-kita k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17509  ### mean distance of poles of 'aiueo' of s-kita and tr:s-fuku are as follows.
17510  # 0.041494*  0.081804   0.057902   0.044840   0.096422   #te:s-kita-a->s-kita-a
17511  # 0.178910   0.211511   0.119480*  0.229855   0.218767   #te:s-kita-i->s-yama-u
17512  # 0.183233   0.093372   0.107021   0.108216   0.039428*  #te:s-kita-u->s-fuku-o
17513  # 0.083173   0.053862   0.070727   0.030526*  0.113057   #te:s-kita-e->s-kita-e
17514  # 0.215709   0.219942   0.229450   0.229299   0.206064*  #te:s-kita-o->s-kosi-o
17515  ###te:s-kita-aiueo-t800+1600 are recognized as auoeo (rate=3/5).###
17516  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-kosi k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17517  ### mean distance of poles of 'aiueo' of s-kosi and tr:s-fuku are as follows.
17518  # 0.089736   0.102844   0.103473   0.064772*  0.099884   #te:s-kosi-a->s-kita-e
17519  # 0.242934   0.144079*  0.195268   0.235222   0.241707   #te:s-kosi-i->s-kosi-i
17520  # 0.151287   0.264857   0.052750*  0.190656   0.250199   #te:s-kosi-u->s-kosi-u
17521  # 0.102829   0.067727   0.100839   0.039197*  0.108755   #te:s-kosi-e->s-sanuki-u
17522  # 0.169160   0.189730   0.174399   0.186103   0.014472*  #te:s-kosi-o->s-kosi-o
17523  ###te:s-kosi-aiueo-t800+1600 are recognized as eiueo (rate=4/5).###
17524  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-sanuki k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17525  ### mean distance of poles of 'aiueo' of s-sanuki and tr:s-fuku are as follows.
17526  # 0.102059*  0.129295   0.160534   0.143476   0.149273   #te:s-sanuki-a->s-sanuki-a
17527  # 0.093308   0.039539*  0.132618   0.072377   0.094199   #te:s-sanuki-i->s-sanuki-i
17528  # 0.168220   0.187308   0.021566*  0.159030   0.177180   #te:s-sanuki-u->s-sanuki-u
17529  # 0.070106   0.063203   0.118869   0.059645   0.058313*  #te:s-sanuki-e->s-kita-o
17530  # 0.223717   0.219743   0.209831   0.208531   0.136678*  #te:s-sanuki-o->s-kita-o
17531  ###te:s-sanuki-aiueo-t800+1600 are recognized as aiuoo (rate=4/5).###
17532  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-take k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17533  ### mean distance of poles of 'aiueo' of s-take and tr:s-fuku are as follows.
17534  # 0.043263*  0.070819   0.096876   0.052044   0.102440   #te:s-take-a->s-take-a
17535  # 0.161306   0.040085*  0.125533   0.090764   0.063168   #te:s-take-i->s-take-i
17536  # 0.070625   0.083610   0.034443*  0.058266   0.085636   #te:s-take-u->s-take-u
17537  # 0.054680   0.082903   0.088715   0.032861*  0.099999   #te:s-take-e->s-take-e
17538  # 0.214390   0.184185   0.215789   0.205241   0.053072*  #te:s-take-o->s-take-o
17539  ###te:s-take-aiueo-t800+1600 are recognized as aiueo (rate=5/5).###
17540  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-yama k:9 N:1 spkr:1 m:poles4 d
ir:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17541  ### mean distance of poles of 'aiueo' of s-yama and tr:s-fuku are as follows.
17542  # 0.058675*  0.048888   0.046534   0.046169*  0.047624   #te:s-yama-a->s-yama-a
17543  # 0.045717   0.044914*  0.047287   0.046134   0.045445   #te:s-yama-i->s-kita-i
17544  # 0.052326*  0.086760   0.048443   0.046871*  0.048051   #te:s-yama-u->s-yama-a
17545  # 0.121111*  0.214146   0.048038   0.045895*  0.047354   #te:s-yama-e->s-yama-a
17546  # 0.094184   0.088324   0.048038   0.046942*  0.049916   #te:s-yama-o->s-yama-a
17547  # 0.120890   0.078571   0.082375   0.081169   0.048310   #
17548  ###te:s-yama-aiueo-t800+1600 are recognized as aaaeo (rate=3/5).###
17549  ###(11'')#speaker recognition ? now executing 070207 finished
17550  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:54 N:6 spkr:1 m:poles4 d
ir:.../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17551  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:54 N:6 spkr:1 m:poles4 d
ir:.../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17552  ### mean distance of poles of 'aiueo' of s-fuku and tr:s-fuku are as follows.
17553  # 0.047453   0.046534   0.048888   0.046169*  0.047624   #te:s-fuku-a->s-sanuki-e
17554  # 0.045717   0.044914*  0.047287   0.046134   0.045445   #te:s-fuku-i->s-kita-i
17555  # 0.048443   0.046871*  0.049820   0.048051   0.048632   #te:s-fuku-u->s-kita-i
17556  # 0.048038   0.045895*  0.050404   0.047354   0.048308   #te:s-fuku-e->s-kita-i
17557  # 0.048038   0.046942*  0.049916   0.048370   0.048226   #te:s-fuku-o->s-kita-i
17558  ###te:s-fuku-aiueo-t800+1600 are recognized as eiiii (rate=1/5).###
17559  cmd='vowelrecogy3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-kita k:54 N:6 spkr:1 m:poles4 d
ir:.../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17560  ### mean distance of poles of 'aiueo' of s-kita and tr:s-fuku are as follows.
17561  # 0.047241   0.045763*  0.051165   0.046977   0.049429   #te:s-kita-a->s-kita-i
17562  # 0.049597   0.047762*  0.052712   0.049033   0.051199   #te:s-kita-i->s-kita-i
17563
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17564  #  0.047005   0.045192*  0.048066   0.046183   0.047743   #te:s-kita-u->s-kita-i
17565  #  0.048637   0.048213*  0.052033   0.049225   0.051045   #te:s-kita-i->s-kita-i
17566  #  0.046341   0.044413*  0.048449   0.045613   0.046746   #te:s-kita-o->s-kita-i
17567  ###te:s-kita-aiueo-t800+1600 are recognized as iiiii (rate=1/5).###
17568  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-kosi k:54 N:6 spkr:l m:poles4
dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17569  ### mean distance of 'aiueo' of s-kosi and tr:s-kita are as follows.
17570  #  0.047820   0.047409*  0.051650   0.049132   0.049216   #te:s-kosi-a->s-kita-i
17571  #  0.046612   0.045829*  0.048965   0.047071   0.047602   #te:s-kosi-i->s-kita-i
17572  #  0.046883   0.045363*  0.049800   0.046887   0.048163   #te:s-kosi-u->s-kita-i
17573  #  0.049173   0.045564*  0.051616   0.049179   0.049351   #te:s-kosi-e->s-kita-i
17574  #  0.047657   0.045991*  0.049679   0.047520   0.049085   #te:s-kosi-o->s-kita-i
17575  ###te:s-kosi-aiueo-t800+1600 are recognized as iiiii (rate=1/5).###
17576  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-sanuki k:54 N:6 spkr:l m:poles
4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17577  ### mean distance of poles of 'aiueo' of s-sanuki and tr:s-kita are as follows.
17578  #  0.048188*  0.046188*  0.048628   0.047557   0.048661   #te:s-sanuki-a->s-kita-i
17579  #  0.048739   0.048139   0.050059   0.049611   0.049611   #te:s-sanuki-i->s-kita-i
17580  #  0.045165   0.044089*  0.047849   0.045436   0.045162   #te:s-sanuki-u->s-sanuki-e
17581  #  0.046956   0.045896*  0.050186   0.046560   0.048842   #te:s-sanuki-e->s-kita-i
17582  #  0.046969   0.046505*  0.049493   0.047329   0.047958   #te:s-sanuki-o->s-kita-i
17583  ###te:s-sanuki-aiueo-t800+1600 are recognized as ieiii (rate=0/5).###
17584  #  0.047691   0.047099*  0.051401                        #te:s-take-o->s-kita-i
17585  ###te:s-take-aiueo-t800+1600 are recognized as eiiii (rate=1/5).###
17586  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-take k:54 N:6 spkr:l m:poles4
dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17587  ### mean distance of poles of 'aiueo' of s-yama and tr:s-fuku are as follows.
17588  #  0.046969   0.044926*  0.048270   0.047320   0.047775   #te:s-take-a->s-kita-i
17589  #  0.047174   0.046746*  0.049464   0.047434   0.048772   #te:s-take-i->s-kita-i
17590  #  0.047002   0.046445*  0.049488   0.046844   0.047982   #te:s-take-u->s-sanuki-e
17591  #  0.047651   0.047099*  0.051401              0.047876   #te:s-take-e->s-kita-i
17592  ###te:s-take-aiueo-t800+1600 are recognized as eiiii (rate=1/5).###
17593  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-yama k:54 N:6 spkr:l m:poles4
dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17594  ### mean distance of poles of 'aiueo' of s-yama and tr:s-fuku are as follows.
17595  #  0.046338   0.045048*  0.046888   0.046231   0.047060   #te:s-yama-a->s-kita-i
17596  #  0.047128   0.045266*  0.050133   0.046928   0.047381   #te:s-yama-i->s-kita-i
17597  #  0.044709   0.044045   0.045508   0.043861*  0.044467   #te:s-yama-u->s-sanuki-e
17598  #  0.045680   0.044986*  0.048274   0.046187   0.046226   #te:s-yama-e->s-sanuki-e
17599  #  0.040295   0.041748   0.041632   0.041158   0.040294*  #te:s-yama-o->s-sanuki-o
17600  ###te:s-yama-aiueo-t800+1600 are recognized as iielo (rate=2/5).###
17601  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-yama te:s-yama N:6 spkr:l m:poles4
17602  (11') speech recognition with M4 (2+3+2+1+1)/30=11/30
17603  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-fuku k:9 N:1 spkr:l m:M4 dir:../onsei
07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17604  ### mean distance of M4 of s-fuku and tr:s-fuku are as follows.
17605  #  0.077369   0.041368*  0.098230   0.050398   0.087069   #te:s-fuku-a->s-yama-i
17606  #  0.097396   0.071937*  0.157443   0.091319   0.134964   #te:s-fuku-i->s-kita-i
17607  #  0.061491   0.051208   0.124240   0.039638*  0.108998   #te:s-fuku-u->s-kita-i
17608  #  0.066429   0.059132   0.078626   0.054863*  0.074549   #te:s-fuku-e->s-take-e
17609  #  0.062057   0.051787   0.092993   0.036010*  0.086387   #te:s-fuku-o->s-kosi-o
17610  ###te:s-fuku-aiueo-t800+1600 are recognized as iieee (rate=2/5).###
17611  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-kita k:9 N:1 spkr:l m:M4 dir:../onsei
07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17612  ### mean distance of M4 of s-kita and tr:s-fuku are as follows.
17613  #  0.121741   0.108397   0.113028   0.077129*  0.111041   #te:s-kita-a->s-sanuki-e
17614  #  0.131211   0.083299   0.086010   0.076955*  0.113867   #te:s-kita-i->s-kosi-e
17615  #  0.131211   0.088415   0.078492   0.068193   0.062163*  #te:s-kita-u->s-fuku-o
17616  #  0.125455   0.090351   0.112177   0.061451*  0.128033   #te:s-kita-e->s-take-e
17617  #  0.243974   0.220652   0.257720   0.218344   0.124816*  #te:s-kita-o->s-kosi-o
17618  ###te:s-kita-aiueo-t800+1600 are recognized as eiuio (rate=3/5).###
17619  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-kosi k:9 N:1 spkr:l m:M4 dir:../onsei
07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17620  ### mean distance of M4 of s-kosi and tr:s-fuku are as follows.
17621  #  0.111280   0.136498   0.140543   0.082968*  0.146909   #te:s-kosi-a->s-kita-i
17622  #  0.217247   0.189761*  0.201366   0.201891   0.202131   #te:s-kosi-i->s-kosi-i
17623  #  0.193345   0.202831   0.172070*  0.229996   0.229996   #te:s-kosi-u->s-sanuki-u
17624  #  0.090222   0.062423*  0.076958   0.080717   0.090489   #te:s-kosi-e->s-sanuki-e
17625  #  0.279067   0.241350   0.267497   0.243635   0.201874*  #te:s-kosi-o->s-sanuki-o
17626  ###te:s-kosi-aiueo-t800+1600 are recognized as eiuio (rate=3/5).###
17627  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-kosi k:9 N:1 spkr:l m:M4 dir:../onsei
07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17628  ### mean distance of M4 of s-sanuki and tr:s-fuku are as follows.
17629  #  0.068920   0.059024   0.073651   0.052507*  0.060859   #te:s-sanuki-a->s-take-e
17630  #  0.091423   0.099764   0.089133   0.062163*  0.068198   #te:s-sanuki-i->s-kosi-e
17631  #  0.127410   0.127489   0.061260*  0.109103   0.112580   #te:s-sanuki-u->s-fuku-u
17632  #  0.073670   0.088795   0.082560   0.076781   0.071650*  #te:s-sanuki-e->s-kita-o
17633  #  0.307483   0.315429   0.313216   0.290343   0.109305*  #te:s-sanuki-o->s-kosi-o
17634  ###te:s-sanuki-aiueo-t800+1600 are recognized as eeuoo (rate=2/5).###
17635  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-sanuki:s-take:s-yama te:s-take k:9 N:1 spkr:l m:M4 dir:../onsei
07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17636  ### mean distance of M4 of s-take and tr:s-fuku are as follows.
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```
17637  #  0.069022   0.076832   0.058749*  0.070510   0.081883   #te:s-take-a->s-fuku-u
17638  #  0.083456   0.089910   0.096541   0.085526   0.071561*  #te:s-take-i->s-yama-o
17639  #  0.133683   0.134168   0.115423   0.093998*  0.118939   #te:s-take-u->s-yama-e
17640  #  0.059847   0.048165*  0.056038   0.072163   0.073534   #te:s-take-e->s-take-i
17641  #  0.474819   0.498538   0.462274   0.473513   0.453792*  #te:s-take-o->s-sanuki-o
17642  ###te:s-take-aiueo-t800+1600 are recognized as ueoio (rate=1/5).###
17643  ### mean distance of M4 of s-yama and tr:s-fuku are as follows.
17644  #  0.081932*  0.103215   0.111550   0.099944   0.118871   #te:s-yama-a->s-sanuki-a
17645  #  0.079468*  0.098691   0.099833   0.099833   0.131961   #te:s-yama-i->s-take-a
17646  #  0.114382   0.078745   0.105309   0.088809   0.078570*  #te:s-yama-u->s-fuku-o
17647  #  0.099725   0.082236   0.068998*  0.104109   0.118763   #te:s-yama-e->s-take-u
17648  #  0.085251   0.057917*  0.082860   0.082460   0.072820   #te:s-yama-o->s-take-i
17649  ###te:s-yama-aiueo-t800+1600 are recognized as aaoui (rate=1/5).###
17650
17651  (11'+1) vowel+speaker recog M4_k9N1                       SR20/30 VR27/30
17652  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:9 N:1 spkr:l m:M4 dir:.
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17653  ### mean distance of M4 of s-fuku and tr:s-fuku are as follows.
17654  #  0.052755   0.041368*  0.098230   0.050398   0.087069   #te:s-fuku-a->s-yama-i  NGv  0,0
17655  #  0.097396   0.068697*  0.077096   0.091319   0.120336   #te:s-fuku-i->s-take-i  NGs  1,1
17656  #  0.061491   0.051208   0.057324   0.039638*  0.079930   #te:s-fuku-u->s-take-e  NGs  0,0
17657  #  0.062115   0.059132   0.071684   0.054863*  0.061596   #te:s-fuku-e->s-take-e  NGs  0,0
17658  #  0.062057   0.051787   0.065634   0.036010*  0.051473   #te:s-fuku-o->s-kosi-o  NGs  0,1
17659  ###te:s-fuku-aiueo-t800+1600 are recognized as iieee (rate=2/5).###
17660  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-kita k:9 N:1 spkr:l m:M4 dir:.
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17661  ### mean distance of M4 of s-kita and tr:s-fuku are as follows.
17662  #  0.060011*  0.108397   0.113028   0.067545   0.110141   #te:s-kita-a->s-kita-i  1,1
17663  #  0.131211   0.083299   0.086010   0.076955*  0.113867   #te:s-kita-i->s-kosi-e  1,1
17664  #  0.081991   0.088415   0.078492   0.068193   0.047061*  #te:s-kita-u->s-fuku-o  1,1
17665  #  0.109387   0.090351   0.112177   0.053881*  0.110728   #te:s-kita-e->s-take-e  1,1
17666  #  0.243974   0.220652   0.257720   0.215457   0.124816*  #te:s-kita-o->s-kosi-o  0,1
17667  ###te:s-kita-aiueo-t800+1600 are recognized as aeoeo (rate=3/5).###
17668  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-kosi k:9 N:1 spkr:l m:M4 dir:.
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17669  ### mean distance of M4 of s-kosi and tr:s-fuku are as follows.
17670  #  0.111280   0.136498   0.140543   0.082968*  0.146909   #te:s-kosi-a->s-kita-i  0,0
17671  #  0.217247   0.151303*  0.201366   0.177342   0.202131   #te:s-kosi-i->s-kosi-i  1,1
17672  #  0.193345   0.202831   0.086821*  0.231817   0.229996   #te:s-kosi-u->s-sanuki-u  1,1
17673  #  0.090222   0.062423   0.062423   0.048200*  0.090489   #te:s-kosi-e->s-kosi-e  1,1
17674  #  0.279067   0.241350   0.267497   0.243635   0.018895*  #te:s-kosi-o->s-kosi-o  1,1
17675  ###te:s-kosi-aiueo-t800+1600 are recognized as eiueo (rate=4/5).###
17676  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-sanuki k:9 N:1 spkr:l m:M4 dir
:.../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17677  ### mean distance of M4 of s-sanuki and tr:s-fuku are as follows.
17678  #  0.055464   0.059024   0.073651   0.052507*  0.060859   #te:s-sanuki-a->s-take-e  0,0
17679  #  0.077099   0.021114*  0.089133   0.039523   0.068198   #te:s-sanuki-i->s-sanuki-i  1,1
17680  #  0.127410   0.127489   0.035638*  0.109023   0.112580   #te:s-sanuki-u->s-sanuki-u  1,1
17681  #  0.061491   0.073670   0.044640   0.082560   0.042485*  #te:s-sanuki-e->s-sanuki-e  1,1
17682  #  0.305552   0.269183   0.313216   0.277918   0.109305*  #te:s-sanuki-o->s-kosi-o  0,1
17683  ###te:s-sanuki-aiueo-t800+1600 are recognized as eiueo (rate=4/5).###
17684  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-take k:9 N:1 spkr:l m:M4 dir:.
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17685  ### mean distance of M4 of s-take and tr:s-fuku are as follows.
17686  #  0.046336*  0.076832   0.058749   0.070192   0.081883   #te:s-take-a->s-take-a
17687  #  0.083456   0.021890*  0.096541   0.085526   0.071561   #te:s-take-i->s-take-u
17688  #  0.133683   0.134168   0.115423   0.093998   0.118939   #te:s-take-u->s-yama-a
17689  #  0.059584   0.048165*  0.056268*  0.093889   0.073534   #te:s-take-e->s-kita-i
17690  #  0.474819   0.422369   0.462274   0.473513   0.129901*  #te:s-take-o->s-take-o
17691  ###te:s-take-aiueo-t800+1600 are recognized as aiuio (rate=4/5).###
17692  cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-yama k:9 N:1 spkr:l m:M4 dir:.
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17693  ### mean distance of M4 of s-yama and tr:s-fuku are as follows.
17694  #  0.021620*  0.103215   0.111550   0.099944   0.105723   #te:s-yama-a->s-yama-a  1,1
17695  #  0.076356*  0.082156   0.099869   0.094629   0.107119   #te:s-yama-i->s-yama-a  1,1
17696  #  0.114382   0.078745   0.072691*  0.088809   0.078570   #te:s-yama-u->s-kosi-u  1,1
17697  #  0.099725   0.079122   0.068988   0.023622*  0.075059   #te:s-yama-e->s-yama-e  1,1
17698  #  0.085251   0.057917   0.085288   0.078214   0.027020*  #te:s-yama-o->s-yama-o  1,1
17699  ###te:s-yama-aiueo-t800+1600 are recognized as aaueo (rate=4/5).###
17700
17701  (11'') speech recognition with poles4,single (0+1+1+2+3+0)/30=7/30=23.3
17702  cmd='vowelrecogv3 tr:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:9 N:1 spkr:l m:poles4 dir:../o
nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
17703  ### mean distance of poles of 'aiueo' of s-fuku and tr:s-kita are as follows.
17704  #  0.066277   0.040060*  0.087931   0.042355   0.097053   #te:s-fuku-a->s-yama-i
17705  #  0.091947*  0.100067   0.136691   0.092760   0.133079   #te:s-fuku-i->s-fuku-a
17706  #  0.073170   0.109844   0.140440   0.056820*  0.095917   #te:s-fuku-u->s-take-e
17707  #  0.147686   0.093842*  0.157976   0.195433   0.171052   #te:s-fuku-e->s-kita-i
17708  #  0.145533   0.095547*  0.122984   0.148196   0.126617   #te:s-fuku-o->s-take-i
17709  ###te:s-fuku-aiueo-t800+1600 are recognized as iaeii (rate=0/5).###
17710  cmd='vowelrecogv3 tr:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:9 N:1 spkr:l m:poles4 dir:../o
nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800 DISP:0 > /dev/null'
```

```
17711 ### mean distance of poles of 'aiueo' of s-kita and tr:s-fuku are as follows.
17712 #   0.102827   0.081804   0.057902*  0.078546   0.096422   #te:s-kita-a->s-take-u
17713 #   0.178910   0.217796   0.119480*  0.229855   0.218767   #te:s-kita-i->s-yama-u
17714 #   0.183233   0.093372   0.176504   0.108216   0.039428*  #te:s-kita-o->s-fuku-o
17715 #   0.098077   0.053862*  0.070727   0.068953   0.113057   #te:s-kita-e->s-yama-i
17716 #   0.215709   0.219942   0.229450   0.219299   0.206064*  #te:s-kita-o->s-kosi-o
17717 ###te:s-kita-aiueo-t800+1600 are recognized as uuoio (rate=1/5).###
17718 cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-take:s-yama te:s-kosi k:9 N:1 spkr:1 m:poles4 dir:../o
17719 nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
17720 ### mean distance of poles of 'aiueo' of s-kosi and tr:s-fuku are as follows.
17721 #   0.089736   0.102844   0.103473   0.064772*  0.099884   #te:s-kosi-a->s-kita-e
17722 #   0.242934   0.243559   0.195268*  0.235222   0.241707   #te:s-kosi-i->s-kita-e
17723 #   0.151287   0.264857   0.149947*  0.190656   0.250199   #te:s-kosi-u->s-sanuki-u
17724 #   0.102829   0.066727*  0.100839   0.091056   0.108755   #te:s-kosi-e->s-sanuki-i
17725 #   0.169160*  0.189730   0.174399   0.186103   0.190015   #te:s-kosi-o->s-kita-a
17726 ###te:s-kosi-aiueo-t800+1600 are recognized as euuia (rate=1/5).###
17727 cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-take:s-yama te:s-sanuki k:9 N:1 spkr:1 m:poles4 dir:../o
17728 nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
17729 ### mean distance of poles of 'aiueo' and tr:s-fuku are as follows.
17730 #   0.149024   0.131100*  0.160534   0.143476   0.149273   #te:s-sanuki-a->s-kita-i
17731 #   0.093308   0.137306   0.132618   0.072377*  0.094199   #te:s-sanuki-a->s-kita-e
17732 #   0.168220   0.187308   0.047830*  0.159030   0.177180   #te:s-sanuki-u->s-yama-u
17733 #   0.070106   0.105505   0.118869   0.059645   0.058313*  #te:s-sanuki-e->s-kita-o
17734 #   0.223717   0.219743   0.209831   0.208531   0.126678*  #te:s-sanuki-o->s-kosi-o
17735 ###te:s-sanuki-aiueo-t800+1600 are recognized as ieuuo (rate=2/5).###
17736 cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-take:s-yama te:s-take k:9 N:1 spkr:1 m:poles4 dir:../o
17737 nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
17738 ### mean distance of poles of 'aiueo' of s-take and tr:s-fuku are as follows.
17739 #   0.051745*  0.070819   0.124465   0.052044   0.102440   #te:s-take-a->s-fuku-a
17740 #   0.161306   0.193484   0.125533   0.090764   0.063168*  #te:s-take-i->s-fuku-o
17741 #   0.070625   0.083610   0.153355   0.058266*  0.085636   #te:s-take-u->s-sanuki-u
17742 #   0.054680   0.082903   0.107544   0.054140*  0.099999   #te:s-take-e->s-sanuki-e
17743 #   0.214390   0.223990   0.215789   0.205241   0.198367*  #te:s-take-o->s-fuku-o
17744 ###te:s-take-aiueo-t800+1600 are recognized as aoeeo (rate=3/5).###
17745 cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-take:s-yama k:9 N:1 spkr:1 m:poles4 dir:../o
17746 nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
17747 ### mean distance of poles of 'aiueo' of s-yama and tr:s-fuku are as follows.
17748 #   0.094184   0.112032   0.062618*  0.113433   0.101967   #te:s-yama-o->s-take-i
17749 #   0.120890   0.078571*  0.082375   0.118041   0.101967   #te:s-yama-o->s-take-i
17750 cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-take:s-yama k:9 N:1 spkr:1 m:poles4 dir:../o
17751 nsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
```

(remaining lines 17752–17784 and the right column lines 17785–17861 continue the same tabular log format of poles/distance values and recognition results)

17862 # 0.111703   0.097138   0.114529   0.090388   0.066712* #te:s-kita-u->s-fuku-o 0,0
17863 # 0.074908   0.056927   0.055727   0.039439* 0.084765   #te:s-yama-a->s-kita-e 1,1
17864 # 0.150260   0.179516   0.189917   0.199247   0.139889* #te:s-kita-o->s-sanuki-o 0,1
17865 ###te:s-kita-aiueo-t800+1600 are recognized as auoeo (rate=3/5).###
17866 ### mean distance of poles of 'aiueo' of s-kosi and tr:s-fuku are as follows.
17867 # 0.097317   0.106913   0.106033   0.077686* 0.087947   #te:s-kosi-a->s-sanuki-e 0,0
17868 # 0.176039   0.103718* 0.193308   0.227097   0.235016   #te:s-kosi-i->s-kosi-i 1,1
17869 # 0.120749   0.138989   0.037609* 0.150146   0.166695   #te:s-kosi-u->s-kosi-u 1,1
17870 # 0.087544   0.062425   0.108649   0.052012* 0.088815   #te:s-kosi-e->s-kosi-e 1,1
17871 ###te:s-sanuki-aiueo-t800+1600 are recognized as iiulu (rate=1/5).###
...

(dense numeric log data continues — file listing of readmecan2mspeech.txt line numbers 17862–18013 with vowel/speaker recognition distance values)

This page contains dense terminal log output from a speech/vowel recognition program (readmecan2mspeech.txt), lines numbered approximately 18014–18162, arranged in two columns. The content consists of numeric data columns and annotated recognition results such as:

Column (Page 283, lines 18014–18088):
#NG## ... #te:s-kosi-i->s-kita-e
###cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki k:27 N:6 spkr:l m:poles4 dir'
mean distance of poles of 'aiueo' of s-fuku and tr:s-fuku are as follows.
###te:s-fuku-aiueo-t800+1600 are recognized as ueoio (rate=1/5).###
cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take k:9 N:1 spkr:l m:M4 dir:.'
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:150:150 DISP:0 > /dev/null'
###(12) speaker and vowel recognition with M4

Column (Page 284, lines 18089–18162):
cmd='vowelrecogv3 tr:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-yama k:9 N:1 spkr:l m:M4 dir:.'
./onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:150:150 DISP:0 > /dev/null'
mean distance of M4 of s-yama and tr:s-fuku are as follows.
#te:s-yama-a->s-yama-a ... #te:s-yama-o->s-yama-o
##te:s-yama-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
###(12') speaker and vowel recognition with bagging poles4
rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:150:150:150 DISP:0 > /dev/null'
mean distance of poles of 'aiueo' of s-fuku and tr:s-fuku are as follows.
###(13) speaker recognition ? now executing 070206 finished
cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-fuku k:27 N:6 spkr:l m:poles4
###te:s-fuku-aiueo-t800+1600 are recognized as aieee (rate=3/5).###
cmd='vowelrecogv3 tr:s-fuku:s-kita:s-kosi:s-sanuki:s-take:s-yama te:s-yama k:27 N:6 spkr:l m:poles4

```
dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:800:800:800 DISP:0 > /dev/null'
18163  # ## mean distance of poles of 'aiueo' of s-yama and tr:s-fuku are as follows.
18164  #  0.071374*  0.072705   0.075328   0.072548   0.078050  #te:s-yama-a->s-yama-a
18165  #  0.071051   0.071846*  0.073392   0.072138   0.076993  #te:s-yama-i->s-sanuki-i
18166  #  0.074363   0.073589   0.073127   0.072533*  0.075951  #te:s-yama-u->s-kosi-e
18167  #  0.075620   0.078294   0.078294   0.073453*  0.079666  #te:s-yama-e->s-kosi-e
18168  #  0.074854   0.074222   0.076686   0.073942*  0.075886  #te:s-yama-o->s-kosi-e
18169  ###te:s-yama-aiueo-t800+1600 are recognized as aieee (rate=3/5).###
18170
18171
18172  ###(10) making s(t) by baggingCAN2
18173  ###(10) making s(t) by baggingCAN2
18174  for name in fuku kita kosi sanuki take yama; do for v in a i u e o; do
18175  rm -rf result-ensrs2ge/tmp;
18176  d=../onsei07  # the directory storing the onsei-data files
18177  rsa=rsa=-1:0.7:1:20 k=9 N=1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
18178  rsa=rsa:2:0.7:1:20 k=27 N=6 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
18179  t=100:tl=2000:tt='expr $[tf]+$[tl]',pf=$tf:pl=$tl:pt='expr $[pf]+$[pl]',
18180  ./tspredv3 ${d}/${name}-${v}.dat ${tf}-${tt}:${tf}-${tf}:${pf}-${pt} ${mp} ${DM} ${H} N:${N}-${N}-1 M:1-1:1 ssp
18181  1:${rsa} k:${k} y:0:0:0:1 ${g} ${w}:T:${T} vt:0.5 vr:10 >/dev/null
18182  1 ${rsa} k:${k} y:0:0:0:0 ${g} ${w}:T:${T} vt:0.5 vr:10 >/dev/null
18183  ###info save
18184  cd result-ensrs2ge:
18185  f="../${d}/s-${name}-N${N}t${tf}:${tf}-${tt}p${pf}-${pt}-${pt}-${v}"
18186  f="${d}/s-N${N}t${tf}:${tf}p${pf}-${pt}p${pf}-${pt}-${name}-${v}"
18187  f=${f}:${d}/${pf}-${pt}.dat"
18188  p="predicCDMO:${k}-${pt}.dat"
18189  p="predicCDMO:$k-${pt}.dat"
18190  cat ${p} |awk '{print $3-$1}' > ../${f}.dat
18191  ##for display error from here
18192  cat > disp.plt <<EOF
18193  plot "../${f}.dat" using 0:(\$3-\$1) t "../${f}" w lp; pause -1 "Hit return key to quit"
18194  plot "../${f}.dat" using 0:1 t "${f}" w lp; pause -1 "Hit return key to quit"
18195  EOF
18196  xterm -geometry 50x5-0-0 -e gnuplot -geometry 300x210 disp.plt&
18197  ##for display error to here
18198  cd ..;
18199  echo "### Done for ${f}.dat ###"
18200  done ; done
18201  ### making s(t) to here.
18202  ###(13) poles with N=1 is unstable.
18203
18204  ################################################################
18205  #####################################################################
18206  ######npt:0.75
18207  cmd='vowelrecogv3 tr:kita:kosi:sanuki:take:yama k:fuku k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18208  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18209  ### mean distance of poles of 'aiueo' of fuku and tr:kita are as follows.
18210  # 0.053549   0.056038   0.055016   0.052717   0.052708*  #te:fuku-a->sanuki-o
18211  # 0.053789   0.050968*  0.052314   0.055969   0.053899   #te:fuku-i->kita-i
18212  # 0.058388   0.056484   0.055969   0.053878*  0.056082   #te:fuku-u->sanuki-e
18213  # 0.056912   0.058739   0.055929   0.051939*  0.053510   #te:fuku-u->take-u
18214  # 0.053134   0.052338   0.051597   0.050466   0.050135*  #te:fuku-o->kita-o
18215  ###te:fuku-aiueo-t150+300 are recognized as oieeo (rate=3/5).###
18216  cmd='vowelrecogv3 tr:fuku:kosi:sanuki:take:yama te:kita k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18217  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18218  # 0.047605*  0.052271   0.051997   0.052994   0.049875   #te:kita-a->kosi-a
18219  # 0.059297   0.052641*  0.053909   0.055931   0.054754   #te:kita-i->take-i
18220  # 0.059107   0.053147   0.051962*  0.056208   0.053642   #te:kita-u->take-u
18221  # 0.058428   0.057097   0.055989   0.051476*  0.052878   #te:kita-e->sanuki-e
18222  # 0.056540   0.057266   0.057121   0.054272   0.052166*  #te:kita-o->sanuki-o
18223  ###te:kita-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18224  cmd='vowelrecogv3 tr:fuku:kita:sanuki:take:yama te:kosi k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18225  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18226  # 0.051688*  0.056277   0.052297*  0.053975   0.053396   #te:kosi-i->sanuki-i
18227  # 0.059951   0.054227   0.053098*  0.055071   0.054676   #te:kosi-i->sanuki-e
18228  # 0.060306   0.054217   0.055859   0.055073   0.053012   #te:kosi-e->sanuki-e
18229  # 0.057911   0.056555   0.054217   0.051036*  0.052770   #te:kosi-o->sanuki-e
18230  ###te:kosi-aiueo-t150+300 are recognized as aiue (rate=4/5).###
18231
18232  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:sanuki k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18233  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18234  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki and tr:fuku are as follows.
18235  # 0.053322*  0.055377   0.055185   0.055095   0.053926   #te:sanuki-a->kita-a
18236  # 0.057648   0.049309*  0.050583   0.050370   0.051645   #te:sanuki-i->kosi-i
18237  # 0.056671   0.050584   0.060011*  0.054023   0.050712   #te:sanuki-u->yama-u
18238  # 0.057655   0.057947   0.054875   0.051918*  0.053305   #te:sanuki-e->fuku-e
```

```
18238  #  0.054269   0.055118   0.054243   0.050771   0.049099*  #te:sanuki-o->kita-o
18239  ###te:sanuki-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18240  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18241  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18242  ### mean distance of poles of 'aiueo' of take and tr:fuku are as follows.
18243  # 0.047255*  0.050460   0.050332   0.050360   0.049294   #te:take-a->sanuki-a
18244  # 0.058596   0.052265*  0.053495   0.055527   0.053758   #te:take-i->kosi-i
18245  # 0.059199   0.054666   0.052672*  0.054717   0.054518   #te:take-u->kosi-u
18246  # 0.056939   0.052141   0.052591   0.050328*  0.050711   #te:take-e->sanuki-e
18247  # 0.054916   0.055813   0.053455   0.050559   0.049595*  #te:take-o->yama-o
18248  ###te:take-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18249  cmd='vowelrecogv3 tr:fuku:kita:kosi:sanuki:take te:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18250  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18251  ### mean distance of poles of 'aiueo' and tr:fuku are as follows.
18252  # 0.053627*  0.056513   0.057821   0.056319   0.055238   #te:yama-a->kosi-a
18253  # 0.060898   0.052337*  0.053342   0.057660   0.057810   #te:yama-i->kosi-i
18254  # 0.056589   0.050907   0.049184*  0.051686   0.051362   #te:yama-u->sanuki-u
18255  # 0.056806   0.055811   0.055155   0.049160*  0.052774   #te:yama-e->sanuki-e
18256  # 0.053972   0.057250   0.056073   0.052206   0.051477*  #te:yama-o->kita-o
18257  ###te:yama-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18258
18259  cmd='vowelrecogv3 tr:fuku:kita:kosi te:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18260  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18261  ### mean distance of poles of 'aiueo' of sanuki and tr:fuku are as follows.
18262  # 0.053613*  0.056222   0.054341   0.050997*  0.054783   #te:sanuki-i->fuku-u
18263  # 0.053083   0.051869   0.052884   0.054268   0.053192   #te:sanuki-u->take-u
18264  # 0.052776   0.050985   0.050598*  0.054666   0.052904   #te:sanuki-u->take-e
18265  # 0.056554   0.058939   0.053764   0.050482*  0.051709   #te:sanuki-o->kita-o
18266  # 0.054209   0.054806   0.053764   0.051709   0.049674*  #te:sanuki-o->kita-o
18267  ###te:take-aiueo-t150+300 are recognized as   auueo (rate=4/5).###
18268  # 0.048605*  0.053018   0.049265   0.052179   0.054346   #te:take-i->fuku-a
18269  # 0.059104   0.052464*  0.054838   0.056072   0.057126   #te:yama-i->kita-i
18270  # 0.057089   0.056100   0.052790*  0.056268   0.056996   #te:take-u->kosi-u
18271  # 0.054839   0.053563   0.053887   0.053563   0.050792   #te:take-e->kosi-e
18272  # 0.053710   0.054252   0.054074   0.052726   0.050314*  #te:take-o->kita-o
18273  ###te:take-aiueo-t150+300 are recognized as aiueo (rate=4/5).###
18274  ### mean distance of poles of 'aiueo' of yama and tr:fuku are as follows.
18275  # 0.053889*  0.058788   0.057605   0.056965   0.054346   #te:yama-a->kosi-a
18276  # 0.059543   0.055329   0.053369*  0.056676   0.058196   #te:yama-i->kosi-u
18277  # 0.053262   0.054140   0.050892*  0.052817   0.052874   #te:yama-u->kita-u
18278  # 0.054803   0.056873   0.055892   0.051227*  0.054013   #te:yama-e->kosi-e
18279  # 0.054693   0.054670   0.056112   0.056112   0.052973*  #te:yama-o->kosi-o
18280  ###te:yama-aiueo-t150+300 are recognized as auueo (rate=4/5).###
18281  ########################################################################
18282
18283  ### 3train and 3test
18284  cmd='vowelrecogv3 tr:fuku:kita:kosi te:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18285  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18286  ### mean distance of poles of 'aiueo' of fuku and tr:sanuki are as follows.
18287  # 0.054453   0.058116   0.055016   0.052717   0.052708*  #te:fuku-a->sanuki-o
18288  # 0.056912   0.057742*  0.053132   0.053330   0.056167   #te:fuku-i->sanuki-i
18289  # 0.058168   0.057610   0.055969   0.053878*  0.057572   #te:fuku-u->sanuki-e
18290  # 0.058169   0.060160   0.057346   0.051939*  0.053842   #te:fuku-u->take-u
18291  # 0.054422   0.053536   0.051597   0.051816   0.051846   #te:fuku-o->take-u
18292  ###te:fuku-aiueo-t150+300 are recognized as oieeu (rate=2/5).###
18293  # 0.047875*  0.054250   0.051997   0.051266   0.054831   #te:kita-a->kosi-a
18294  # 0.059340   0.052572*  0.053909   0.058633   0.058056   #te:kita-i->take-i
18295  # 0.058965   0.054407   0.051962*  0.056208   0.058221   #te:kita-u->take-u
18296  # 0.055993   0.058845   0.055989   0.051476*  0.055752   #te:kita-e->sanuki-e
18297  # 0.055959   0.060324   0.057961   0.051920*  0.051476   #te:kita-o->sanuki-o
18298  ###te:kita-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18299  ### mean distance of poles of 'aiueo' of kosi and tr:sanuki are as follows.
18300  # 0.052247*  0.057574   0.055764   0.055940   0.053312   #te:kosi-a->yama-a
18301  # 0.059911   0.052297*  0.053061   0.055993   0.055764   #te:kosi-i->take-i
18302  # 0.060090   0.055224   0.053055*  0.056781   0.060454   #te:kosi-u->take-u
18303  # 0.057968   0.056768   0.055859   0.055493   0.049650*  #te:kosi-e->sanuki-e
18304  # 0.058782   0.056768   0.055071   0.055709   0.051036*  #te:kosi-o->sanuki-e
18305  ###te:kosi-aiueo-t150+300 are recognized as aiuee (rate=4/5).###
18306
18307
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18311
18312  cmd='vowelrecogv3 tr:fuku:kita:kosi te:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18313  :20 DiffMode:0 T:100 tt:150:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18314  # 0.053128*  0.055362   0.055159   0.055022   0.053838   #te:sanuki-a->kita-a
```

```
18315  #   0.058051   0.049309*   0.053624   0.051645   #te:sanuki-i->kosi-i
18316  #   0.056762   0.050811    0.054794   0.050712*  #te:sanuki-u->fuku-o
18317  #   0.057655   0.057967    0.055454   0.051918*  #te:sanuki-e->fuku-e
18318  #   0.054269   0.055118    0.054454   0.050771   #te:sanuki-o->kosi-o
18319  ##te:sanuki-aiueo-t150+300 are recognized as aioeo (rate=4/5).###
18320  ### mean distance of poles of 'aiueo' of take and trifuku are as follows.
18321  #   0.048182*  0.050460    0.050332   0.050622   #te:take-a->kita-a
18322  #   0.060816   0.054152    0.057504   0.053758   #te:take-i->kosi-i
18323  #   0.060449   0.054780    0.052572*  0.055688   #te:take-u->kosi-u
18324  #   0.057298   0.053718    0.053333   0.050619*  #te:take-e->kita-e
18325  #   0.054916   0.055813    0.053455   0.050559*  #te:take-o->kita-e
18326  ##te:take-aiueo-t150+300 are recognized as aiuue (rate=4/5).###
18327  ### mean distance of poles of 'aiueo' of yama and trifuku are as follows.
18328  #   0.054118*  0.057225    0.058257   0.056791   #te:yama-a->kosi-a
18329  #   0.063871   0.052337*   0.053342   0.058143   #te:yama-i->kosi-i
18330  #   0.058899   0.050907    0.050767*  0.053962   #te:yama-u->kosi-u
18331  #   0.056770   0.055562    0.055205   0.051452*  #te:yama-e->kita-e
18332  #   0.053972   0.057438    0.056073   0.052206*  #te:yama-o->take-e
18333  ##te:yama-aiueo-t150+300 are recognized as aiue (rate=4/5).###
18334
18335  cmd='vowelrecogv3 te:fuku:kita:kosi tr:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18336  :20 DiffMode:0 T:100 tt:0:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18337  ### mean distance of poles of 'aiueo' of fuku and trisanuki are as follows.
18338  #   0.051822*  0.053234    0.054709   0.054786   #te:fuku-a->kosi-a
18339  #   0.053034   0.052357    0.054961   0.055410   #te:fuku-i->take-u
18340  #   0.054869   0.052712    0.053093*  0.058020   #te:fuku-u->take-u
18341  #   0.049951*  0.053874    0.057956   0.054571   #te:fuku-e->sanuki-e
18342  ##te:fuku-aiueo-t150+300 are recognized as auuea (rate=3/5).###
18343  ### mean distance of poles of 'aiueo' of kita and trisanuki are as follows.
18344  #   0.046802*  0.053931    0.052748   0.057726   #te:kita-a->take-a
18345  #   0.057454   0.051409*   0.053389   0.059897   #te:kita-i->take-i
18346  #   0.056619   0.053918    0.053359*  0.058924   #te:kita-u->take-u
18347  #   0.057594   0.054746    0.055675   0.055218*  #te:kita-e->sanuki-e
18348  #   0.056404   0.059738    0.057016   0.056713   #te:kita-o->sanuki-o
18349  ##te:kita-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18350  ### mean distance of poles of 'aiueo' of kosi and trisanuki are as follows.
18351  #   0.051571*  0.056945    0.055948   0.058435   #te:kosi-a->take-a
18352  #   0.055698   0.051894    0.051660*  0.057141   #te:kosi-i->sanuki-u
18353  #   0.057161   0.054674    0.053955*  0.060749   #te:kosi-u->take-u
18354  #   0.057036   0.057838    0.055675   0.052436*  #te:kosi-e->sanuki-e
18355  #   0.056296   0.056983    0.054760   0.052511*  #te:kosi-o->take-o
18356  ##te:kosi-aiueo-t150+300 are recognized as aiueo (rate=4/5).###
18357
18358
18359
18360
18361  cmd='vowelrecogv3 tr:yama:kita:kosi:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18362  t:0:100:100 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18363  ### mean distance of poles of 'aiueo' of take and triyama are as follows.
18364  #   0.047819*  0.050793    0.048999   0.053176   #te:take-a->yama-a
18365  #   0.055873   0.043268*   0.048551   0.054817   #te:take-i->yama-i
18366  #   0.049902   0.049361    0.045325*  0.047843   #te:take-u->yama-u
18367  #   0.042334   0.052669    0.050537   0.048754   #te:take-o->yama-o
18368  ##te:take-aiueo-t150+100 are recognized as aieo (rate=5/5).###good
18369  ### mean distance of poles of 'aiueo' of yama and tritake are as follows.
18370  #   0.055407   0.058689    0.055807   0.052427   #te:yama-a->take-o
18371  #   0.054118*  0.047444    0.049326   0.052228   #te:yama-i->take-i
18372  #   0.051381   0.050607    0.045955*  0.050548   #te:yama-u->take-u
18373  #   0.049649   0.054638    0.053679   0.048391*  #te:yama-e->take-e
18374  ##te:take-aiueo-t150+100 are recognized as aiueo (rate=4/5).###
18375  #   0.049649   0.051882    0.052953   0.050834   #te:yama-o->take-o
18376  ##te:yama-aiueo-t150+100 are recognized as oiue (rate=4/5).###
18377  cmd='vowelrecogv3 tr:yama:kita:kosi:sanuki:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18378  :20 DiffMode:0 T:100 tt:0:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18379  ### mean distance of poles of 'aiueo' of take and trifuku are as follows.
18380  #   0.048605*  0.050719*   0.051973   0.052179   #te:take-a->fuku-a
18381  #   0.057089   0.055530    0.056268   0.057126   #te:take-i->yama-i
18382  #   0.054839   0.053193    0.051460   0.056996   #te:take-u->kosi-u
18383  #   0.053710   0.054252    0.054074   0.050314*  #te:take-o->kita-o
18384  ##te:take-aiueo-t150+300 are recognized as aiueo (rate=5/5).###
18385  vowelrecogv3 trifuku:kita:kosi te:yama tr:sanuki:take:yama k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 D
18386  iffMode:0 T:100 tt:0:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null
18387  #   0.055873   0.043268*   0.048551   0.054817   #te:take-i->yama-i
18388  #   0.049902   0.049338    0.048691   0.046539*  #te:yama-o->take-o
18389  #bidir##te:yama-aiueo-t150+300 are recognized as aiueo (rate=4/5).###
18390  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
18391  t:0:100:100 DISP:0 npt:0.75:1.1:1:179 > /dev/null
18392  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
```

```
       t:0:150:0:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18393  ### mean distance of poles of 'aiueo' of take and triyama are as follows.
18394  #   0.055170   0.053534   0.052775*  0.057093   #te:yama-a->take-u
18395  #   0.064703   0.049811*  0.053749   0.061194   #te:yama-i->take-i
18396  #   0.059173   0.055219   0.051990*  0.060809   #te:yama-u->take-u
18397  #   0.060263   0.053489   0.052851*  0.055700   #te:yama-e->take-u
18398  #   0.057974   0.055049   0.053476   0.055042   #te:take-o->yama-u
18399  ##te:take-aiueo-t0+150 are recognized as uiuuo (rate=3/5).###
18400  ##te:take-aiueo-t0+150 are recognized as uiuuo (rate=3/5).###
18401  cmd='vowelrecogv3 tr:yama te:take k:54 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
18402  t:0:150:0:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null
18403  ### mean distance of poles of 'aiueo' of take and triyama are as follows.
18404  #   0.032265*  0.035575   0.033779   0.035638   #te:take-a->yama-a
18405  #   0.034763   0.033575   0.034453   0.034870   #te:yama-i->take-i
18406  #   0.034083*  0.034333   0.034115   0.036805   #te:yama-u->take-u
18407  #   0.035567   0.033595   0.032158*  0.032851   #te:yama-e->take-u
18408  #   0.035314   0.036324   0.034760   0.034313*  #te:take-o->yama-e
18409  ##te:take-aiueo-t0+150 are recognized as aoaue (rate=1/5).###
18410
18411
18412  vowelrecogv3 tr:fuku:kita:kosi:sanuki:take:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1
18413  :20 DiffMode:0 T:100 tt:0:150:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null
18414
18415  vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:1
18416  50:0:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null
18417
18418  070201
18419  (1) vowelrecogv2_cを作り，各母音に対して入力次元を設定できるようにした。
18420  下の例では take=eを k=10としたもの。距離値は小さくなったが，これが最小とは限らず，
18421  結果としては同じ認識率(4/5)になった。
18422
18423
18424  vowelrecogv2 te:yama#a9i9u9e9o9 tr:take#a9i9u9e9o9 k:9 N:33-33 m:poles4 dir:../onsei07 T:100 tt:0:1
18425  00:0:100:100 DISP:0 > /dev/null
18426  ### mean distance of poles of 'aiueo' of yama and tri:take are as follows.
18427  #   0.134780*  0.154160   0.151998   0.142151   #te:yama-a->tr:take-aiueo
18428  #   0.158979   0.141900*  0.142316   0.143443   #te:yama-i->tr:take-aiueo
18429  #   0.161908   0.159065   0.139856*  0.150144   #te:yama-u->tr:take-aiueo
18430  #   0.176139   0.172353   0.140659   0.145528   #te:yama-e->tr:take-aiueo
18431  #   0.114943   0.140118   0.106692   0.106918   #te:yama-o->tr:take-aiueo
18432  ##te:yama-aiueo-t0+100 are recognized as tr:take-aiueo-t0+100 (4/5) via m:poles4N33-33.###
18433  Result of 'vowelrecogv2 tr:yama#a9i9u9e9o9 te:take#a9i9u9e9o9 k:9 N:33-33 m:poles4 dir:../onsei07 T
18434  :100 tt:0:100:0:100:100 DISP:0 > /dev/null
18435  ### mean distance of poles of 'aiueo' of take and tri:yama are as follows.
18436  #   0.116436*  0.132415   0.126448   0.119123   #te:take-a->tr:yama-aiueo
18437  #   0.166214   0.134440*  0.136465   0.136736   #te:take-i->tr:yama-aiueo
18438  #   0.155907   0.139426   0.135933   0.134053   #te:take-u->tr:yama-aiueo
18439  #   0.151498   0.130018   0.127516   0.124365*  #te:take-e->tr:yama-aiueo
18440  #   0.141291   0.147140   0.141551   0.125116*  #te:take-o->tr:yama-aiueo
18441  ##te:take-aiueo-t0+100 are recognized as tr:yama-aiueo-t0+100 (3/5) via m:poles4N33-33. ###
18442  この方法がうまくいかなかった原因は，k=10は tt:0:100:0:100:100の設定に相当する予測と予測
18443  すなわち，下記の「single CAN2」のところで
18444  (a) tf=50:tl=100:tt='expr $(tf) + $(tl)':pf=$tt:pl=80:pt='expr $(pf) + $(pl)'
18445  として学習，予測は良い結果を示すが，学習の初期時刻 tf を変え，例えば
18446  (b) tf=150:tl=100:tt='expr $(tf) + $(tl)':pf=$tt:pl=80:pt='expr $(pf) + $(pl)'
18447  のように tf=150とすると良い結果と ならないという原因は，(a)区間 CAN2はうまい予測結果を
18448  示すけれども，正しい母音情報を獲得していないということを意味するのではないかと考える。
18449  (2) また，bagging predictionsの所を参照して
18450  tf=50:tl=100:tt='expr $(tf) + $(tl)':pf=$tt:pl=80:pt='expr $(pf) + $(pl)'
18451  として長さ tl=150 以上，おおよそ pl=30で安定した予測結果が出るようため
18452  ここで，大きい予測長 pl に対して安定した予測結果を得ると tt は大きい学習長 tl が必要である
18453  と考えるが，これより pl がある程度大きくなると，カオス予測の予測不能性により少ないくら
18454  tlを大きくして長さ pl 予測不能になると考え，しかし母音情報を獲得するのは別の
18455  話しであり，ある程度良い tl を用いれば母音情報は獲得できると考える。
18456
18457  #bidir###bidirectional
18458  #bidir###mean distance of yama and tri:take are as follows.
18459  #bidir#   0.048537*  0.057333   0.054453   0.053069   #te:take-a->take-a
18460  #bidir#   0.055975   0.048879   0.047671*  0.052418   #te:yama-i->take-u
18461  #bidir#   0.052383   0.048502   0.045680*  0.046906   #te:yama-i->take-u
18462  #bidir#   0.052494   0.051962   0.047974   0.047918*  #te:yama-e->take-e
18463  #bidir#   0.047228   0.052431   0.049338   0.048691   #te:yama-o->take-o
18464  #bidir###te:yama-aiueo-t0+100 are recognized as aiueo (rate=4/5).###
18465  #bidir##cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0
18466  T:100 tt:0:100:0:100 DISP:0 npt:0.75:1.1:1:179 > /dev/null'  #bidir### mean distance of poles of 'aiueo' of take and tri:yama are as follows.
```

```
18467  #  #bidir##      0.048537   0.056975   0.052383   0.052494   0.047228*  #te:take-a->yama-o
18468  #  #bidir##      0.057333   0.048802*  0.051662   0.052431   0.052431   #te:take-i->yama-o
18469  #  #bidir##      0.054453   0.047671   0.045680*  0.047974   0.049338   #te:take-u->yama-o
18470  #  #bidir##      0.053069   0.051238   0.046906*  0.047918   0.048691   #te:take-e->yama-o
18471  #  #bidir##      0.052418   0.052701   0.047654   0.048309   0.046539*  #te:take-o->yama-o
18472  #  #bidir###te:take-aiueo-t0+100  are recognized as ouuuo (rate=2/5).###
18473
18474  #monodir##cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:
0 T:100  tt:0:100:0:100 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18475  #monodir### mean distance of poles of 'aiueo' of take and tr:take are as follows.
18476  #monodir##  0.045693*  0.055131   0.052611   0.051834   0.048275   #te:take-a->yama-a
18477  #monodir##  0.055755   0.048086*  0.049387   0.050822   0.052721   #te:take-i->yama-a
18478  #monodir##  0.053865   0.047133   0.045475*  0.045785   0.049798   #te:take-u->yama-a
18479  #monodir##  0.052134   0.051858   0.048272   0.048263*  0.050993   #te:take-e->yama-a
18480  #monodir##  0.052237   0.051787   0.048249   0.049277   0.048214*  #te:take-o->yama-a
18481  #monodir###te:take-aiueo-t0+100  are recognized as aiueo (rate=5/5).###
18482  #monodir##cmd='vowelrecogv3 te:yama tr:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:
0 T:100  tt:0:100:0:100 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18483  #monodir#### mean distance of poles of 'aiueo' of take and tr:take are as follows.
18484  #monodir##  0.051381*  0.059910   0.055041   0.054005   0.052598   #te:yama-a->take-a
18485  #monodir##  0.058818   0.049672   0.050618   0.050650   0.053615   #te:yama-i->take-u
18486  #monodir##  0.052155   0.047617   0.045886   0.045541*  0.047060   #te:yama-u->take-e
18487  #monodir##  0.053153   0.052140   0.050163   0.047573   0.047341*  #te:yama-e->take-o
18488  #monodir##  0.046182   0.052140   0.048877   0.046389   0.044863*  #te:yama-o->take-o
18489  #monodir###te:yama-aiueo-t0+100  are recognized as aueoo (rate=2/5).###
18490
18491  vowelrecogv3 tr:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:1
50:0:150 DISP:0 > /dev/null
18492  vowelrecogv3 tr:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:100:
150:100:150 DISP:1 > /dev/null #bagging
18493  vowelrecogv3 tr:yama te:take k:9 N:1 m:poles4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:100
:150:100:150 DISP:1 > /dev/null #single
18494  vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:100:0
:100 DISP:0 > /dev/null
18495  vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:150:0
:150 DISP:0 > /dev/null
18496  vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:200:0
:200 DISP:0 > /dev/null
18497  vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:300:0
:300 DISP:0 > /dev/null
18498
18499  cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:10
0:150 DISP:0 > /dev/null'
18500  ### mean distance of M4 of take and tr:take are as follows.
18501  #  0.676445*  1.159137   0.729578   0.840433   1.008400   #te:take-a->yama-a
18502  #  0.676445   1.168906   0.785756   0.553035   1.589766   #te:take-i->yama-i
18503  #  1.159137   0.337655*  0.837287   0.280904*  1.288178   #te:take-u->yama-u
18504  #  0.548449   0.837287   0.454712   0.522746   0.986401   #te:take-e->yama-e
18505  #  0.850509   0.454712   0.638769   0.739536   0.527538   #te:take-o->yama-o
18506  ###te:take-aiueo-t0+100  are recognized as aiueo (rate=5/5).###
18507  cmd='vowelrecogv3 te:yama tr:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:
100:100:100 DISP:0 > /dev/null'
18508  ### mean distance of M4 of yama and tr:yama are as follows.
18509  #  0.676445*  1.176888   0.761903   0.857761   0.595816   #te:yama-a->take-a
18510  #  1.168906   0.337655*  0.837287   0.454712   1.162479   #te:yama-i->take-i
18511  #  0.550905*  1.052263   0.680035   0.431190   1.193588   #te:yama-u->take-u
18512  #  1.052263   0.348568*  0.553035   0.522746   0.638769   #te:yama-e->take-e
18513  #  0.612158   0.851151   0.299522*  0.416846   0.712987   #te:yama-o->take-o
18514  ###te:yama-aiueo-t0+100  are recognized as aiueo (rate=5/5).###
18515  cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:
100:100:100 DISP:0 > /dev/null'
18516  ### mean distance of M4 of take and tr:take are as follows.
18517  #  0.878709   0.415153   0.570146   0.324893*  1.016755   #te:yama-a->take-o
18518  #  0.318917   1.119178   0.549299   0.671084   0.303304*  #te:yama-i->take-i
18519  ###te:yama-aiueo-t0+100  are recognized as oiueo (rate=4/5).###
18520
18521  cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:
100:0:100 DISP:0 > /dev/null'
18522  ### mean distance of M4 of yama and tr:yama are as follows.
18523  #  0.596052*  1.174193   0.751944   0.846386   0.666876   #te:take-a->yama-a
18524  #  1.048518   0.345472*  0.700634   0.438245   1.235806   #te:take-i->yama-i
18525  #  0.597315   0.846020   0.283411*  0.392350   0.744878   #te:take-u->yama-u
```

```
18536  #  0.864329   0.439828   0.562029   0.292219*  1.025901   #te:take-e->yama-e
18537  #  0.302022   1.141708   0.571320   0.692034   0.298501*  #te:take-i->yama-o
18538  ###te:take-aiueo-t0+150  are recognized as aiueo (rate=5/5).###
18539
18540  cmd='vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:
150:0:150 DISP:0 > /dev/null'
18541  ### mean distance of M4 of take and tr:take are as follows.
18542  #  0.596052*  1.174193   0.751944   0.846386   0.666876   #te:take-a->yama-a
18543  #  1.048518   0.345472*  0.700634   0.438245   1.235806   #te:take-i->yama-i
18544  #  0.597315   0.846020   0.283411*  0.392350   0.744878   #te:take-u->yama-u
18545  #  0.864329   0.439828   0.562029   0.292219*  1.025901   #te:take-e->yama-e
18546  #  0.302022   1.141708   0.571320   0.692034   0.298501*  #te:take-o->yama-o
18547  ###te:take-aiueo-t0+150  are recognized as aiueo (rate=5/5).###
18548
18549
18550
18551
18552  vowelrecogv3 tr:yama te:take k:9 N:1 m:M4 dir:../onsei07 rsa:-1:0.7:1:20 DiffMode:0 T:100 tt:0:150:0
:150 DISP:0 > /dev/null'
18553  ### mean distance of M4 of take and tr:take are as follows.
18554  #  0.622261*  1.178622   0.756135   0.852771   0.688098   #te:take-a->yama-a
18555  #  1.118623   0.322522*  0.770296   0.508794   1.301912   #te:take-i->yama-i
18556  #  0.542078   0.866812   0.314511*  0.393423   0.685129   #te:take-u->yama-u
18557  #  0.845234   0.463922   0.551569   0.287365*  1.000492   #te:take-e->yama-e
18558  #  0.254893*  1.143355   0.589950   0.709069   0.277493   #te:take-o->yama-a
18559  ###te:take-aiueo-t100+250  are recognized as aiuea (rate=4/5).###
18560
18561  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
t:0:150:0:150 DISP:0 npt:0.75:1.1:1:179 > /dev/null'
18562  ### mean distance of poles of 'aiueo' of take and tr:yama are as follows.
18563  #  0.053924*  0.061886   0.058760   0.058071   0.064086   #te:take-a->yama-a
18564  #  0.058557   0.051774*  0.053336   0.052017*  0.055265   #te:take-i->yama-i
18565  #  0.055172   0.053336   0.050201*  0.052137   0.055004   #te:take-u->yama-u
18566  #  0.052817   0.052622   0.049553*  0.053526   0.055265   #te:take-e->yama-e
18567  #  0.057118   0.059642   0.056460   0.059076   0.055028*  #te:take-o->yama-o
18568  ###te:take-aiueo-t0+150  are recognized as aiuuo (rate=4/5).###
18569
18570  vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tt:0:1
50:0:150 DISP:0 npt:0.7:1.1:1:179 > /dev/null
18571  ###te:take-aiueo-t0+150  are recognized as aiuuo (rate=4/5).###
18572
18573  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
t:100:200:100:200 DISP:0 npt:0.7:1.1:1:179 > /dev/null'
18574  ### mean distance of poles of 'aiueo' of take and tr:yama are as follows.
18575  #  0.056434*  0.061515   0.058749   0.060169   0.059351   #te:take-a->yama-a
18576  #  0.062225   0.054018*  0.057394   0.060451   0.065360   #te:take-i->yama-i
18577  #  0.060017   0.059490   0.057902*  0.060595   0.063044   #te:take-u->yama-u
18578  #  0.058611   0.058238   0.055169   0.054901*  0.058343   #te:take-e->yama-e
18579  #  0.060912   0.060616   0.060616   0.059565*  0.061236   #te:take-o->yama-o
18580  ###te:take-aiueo-t100+300  are recognized as aiueu (rate=4/5).###
18581
18582  tf=0;tl=160;tt=`expr $(tf) + $(tl)`;pf=$tt;pl=30;pt=`expr $(pf) + $(pl)`     # tl=150 is necessary for
pl=30 of take-e
18583  tf=0;tl=160;tt=`expr $(tf) + $(tl)`;pf=$tt;pl=30;pt=`expr $(pf) + $(pl)`     # tl=150 is necessary for
pl=30 of take-e
18584  vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tp:$tf
-$tt:$pf-$pt DISP:0 npt:0.7:1.1:5:150 > /dev/null
18585
18586  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 tp:0-1
50:0-150 DISP:0 npt:0.7:1.1:5:150 > /dev/null'
18587  ### mean distance of poles of 'aiueo' of take are as follows.
18588  #  0.049981*  0.056749   0.054432   0.054957   0.054257   #te:take-a->yama-a
18589  #  0.054956   0.045976*  0.049204   0.054987   0.056913   #te:take-i->yama-i
18590  #  0.051164   0.048085   0.047247*  0.051340   0.049814   #te:take-u->yama-u
18591  #  0.049699   0.047906   0.045775*  0.048997   0.051073   #te:take-e->yama-e
18592  #  0.054598   0.055097   0.055097   0.051749   0.051090*  #te:take-o->yama-o
18593  ###te:take-aiueo-t0+150  are recognized as aiuuo (rate=4/5).###
18594  cmd='vowelrecogv3 tr:yama tr:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
p:0-150:0-150 DISP:0 npt:0.7:1.1:5:150 > /dev/null'
18595  ### mean distance of poles of 'aiueo' of yama and tr:take are as follows.
18596  #  0.049143*  0.056618   0.056188   0.054658   0.054963   #te:yama-a->take-a
18597  #  0.054607   0.048750*  0.052849   0.051472   0.053907   #te:yama-i->take-i
18598  #  0.051596   0.049866   0.051378   0.047906*  0.050928   #te:yama-u->take-u
18599  #  0.053405   0.051736   0.052770   0.050233   0.050233   #te:yama-e->take-e
18600  #  0.049699   0.052845   0.052942   0.049935   0.049538*  #te:yama-o->take-o
18601  ###te:yama-aiueo-t0+150  are recognized as aieeo (rate=4/5).###
18602
18603
18604  ##bi-directional
18605  cmd='vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
p:0-150:0-150 DISP:0 npt:0.7:1.1:1:180 > /dev/null'
18606  ### mean distance of poles of 'aiueo' of take and tr:yama are as follows.
18607  #  0.057887*  0.064662   0.061016   0.065455   0.059961   #te:take-a->yama-a
```

```
18608 #  0.064593   0.057517*  0.058798   0.064328   0.065603   #te:take-i ->yama-i
18609 #  0.062281   0.061186   0.060021*  0.062403   0.060559   #te:take-u ->yama-u
18610 #  0.059957   0.058897   0.056082*  0.058234   0.058165   #te:take-e ->yama-u
18611 #  0.062482   0.064648   0.061127   0.061970   0.059177*  #te:take-o ->yama-o
18612 ###te:take-aiueo-t0+150 are recognized as aiuuo (rate=4/5).###
18613 ##single-directional
18614 cmd="vowelrecogv3 tr:yama te:take k:27 N:6 m:poles4 dir:../onsei07 rsa:2:0.7:1:20 DiffMode:0 T:100 t
p:0-150:0-150 DISP:0 npt:0.7:1:0:180 > /dev/null'
18615 ## mean distance of poles of 'aiueo' of take and tr:yama are as follows.
18616 #  0.058052*  0.066552   0.062445   0.068419   0.061829   #te:take-a ->yama-a
18617 #  0.062592   0.056184*  0.057425   0.065503   0.066934   #te:take-i ->yama-i
18618 #  0.060752   0.060288   0.058046*  0.062190   0.059041   #te:take-u ->yama-u
18619 #  0.058172   0.058091   0.055263*  0.057442   0.058824   #te:take-e ->yama-u
18620 #  0.061396   0.064946   0.061161   0.063524   0.058984*  #te:take-o ->yama-o
18621 ###te:take-aiueo-t0+150 are recognized as aiuuo (rate=4/5).###
18622
18623 070129
18624 070129
18625
18626 (1) vowelrecogのオプション dir:<dir> でデータのディレクトリを指定可にした。
18627 vowelrecogの出力形式を変えた（下参照）。
18628 ###############################
18629 ### making residual s(t)
18630 ###############making predictions from here
18631 #fuku kita kosi sanuki take yama
18632 #for name in take yama; do for v in a i u e o; do
18633 #for name in take ; do for v in a ; do
18634 for name in fuku kita kosi sanuki take yama; do for v in a i u e o; do
18635 rm -rf result-ensrs2ge/tmp;
18636 d=../onsei07 # the directory storing the onsei-data files
18637 rsa=rsa:-1:0.7:1:20 k:9 N:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
18638 tf=50:t1=1000:tt=`expr $[tl}-$1}';pf=$tf:pl=$tl:pt=`expr $[pf] + $[pl]`
18639 ./tspredxv3 ${d}/${name}-${v}.dat ${tf}-${tt};${pt}-${pt} ${mp} ${DM} N:${N}-${N}-$[N]-1 M:1-1:1 ssp:
1 ${rsa} k:${k} y:0:0:0:1 $[g] $[w] T:$[T] vr:10:0.5 vr:10 >/dev/null
18640 ###fo save
18641 cd result-ensrs2ge;
18642 #f="./${d}/s-${name}-N${N}t${tf}-${tt}p${pf}-${pt}-$[name]-$[v]"
18643 #f="./${d}/s-N${N}t${tf}-${tt}p${pf}-${pt}-$[name]-$[v]"
18644 f=$[d}/s-${name}-$[v]"
18645 p="predictDM0:${pf}-${pt}.dat"
18646 cat $[p] |awk '{print $3-$1}' > ../${f}.dat
18647 ###for display from here
18648 cat > disp.plt <<EOF
18649 #plot "../${f}.dat" using 0:(\$3-\$1) t "../${f}" w lp; pause -1 "Hit return key to quit"
18650 #plot "../${f}.dat" using 0:1 t "${f}" w lp; pause -1 "Hit return key to quit"
18651 EOF
18652 xterm -geometry 50x5-0-0 -e gnuplot -geometry 300x210 disp.plt&
18653 ##for display error to here
18654 cd ../.echo "### Done for ${f}.dat ###"
18655 done ; done
18656 ### making s(t) to here.
18657
18658 #####
18659 for name in s-N1t50-1050p50-1050-take ; do for v in a ; do
18660 rm -rf result-ensrs2ge/tmp;
18661 d="../onsei07"
18662 tf=0:t1=200:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=30:pt=`expr $[pf] + $[pl]`   #  t1=150 is necessary for
pl=30 of take-e
18663 pl=30 of take-e
18664 tf=50:t1=200:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=30:pt=`expr $[pf] + $[pl]`   #  t1=150 is necessary f
or pl=30 of take-e
18665 tf=50:t1=100:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=80;pt=`expr $[pf] + $[pl]`
18666 rsa=rsa:2:0.7:1:20 k:27 N=N16-6:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;date
18667 cmd=", ./tspredv3 $d/${name}-${v}.dat ${tf}-${tt};${pf}-${pt}-${tt};${pf}-${pt} ${mp} M:1-1:1 ib:0:0:0:0
$[rsa} k:${k} y:0:0:0:0 $[g] $[w] T:${T} vr:10:0.5 vr:10"
18668 $cmd >/dev/null ;date
18669 echo "### Done for $cmd ###"
18670 done done
18671 #####
18672 for name in s-N1t50-1050p50-1050-take ; do for v in a ; do
18673 rm -rf result-ensrs2ge/tmp;
18674 d="../onsei07"
18675 tf=0:t1=100:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=80;pt=`expr $[pf] + $[pl]`
18676 tf=50:t1=200:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=30;pt=`expr $[pf] + $[pl]`  : to
18677 tf=50:t1=200:tt=`expr $[tf] + $[tl]`;pf=$tt:pl=30;pt=`expr $[pf] + $[pl]`  : to
$[frtl}date
18678 cmd=", ./tspredv3 $d/${name}-${v}.dat ${tf}-${tt};${pf}-${pt}-${tt};${pf}-${pt} ${mp} $[H] M:1-1:1 ib:0:0:0:0
$[rsa} y:0:0:0:1 $[g] $[w] T:${T} vr:10:0.5 vr:10"
18679 $cmd >/dev/null ;date
18680 echo "### Done for $cmd ###"
18681 done done
18682 #############################################
```

```
18683 #############################################
18684 #############################################
18685 ### recogniiton test
18686 #############################################
18687 Result of 'vowelrecog te:yama tr:take k:9 N:33-33 m:poles4 dir:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18688 ### mean distance of poles of 'aiueo' of yama and take are as follows.
18689 #  0.134780*  0.151998   0.154160   0.145055   0.136471   #te:yama-a->tr:take-aiueo
18690 #  0.158979   0.141900*  0.142316   0.147571   0.148547   #te:yama-i->tr:take-aiueo
18691 #  0.161908   0.159065   0.139856*  0.140659   0.148023   #te:yama-u->tr:take-aiueo
18692 #  0.176139   0.172353   0.140659   0.158774   0.140490*  #te:yama-e->tr:take-aiueo
18693 #  0.114943   0.140118   0.106692   0.112553   0.095262*  #te:yama-o->tr:take-aiueo
18694 ###te:yama-aiueo-t0+100 are recognized as tr:take-aiueo-t0+100 (4/5) via m:poles4N33-33.###
18695 Result of 'vowelrecog te:take tr:yama k:9 N:33-33 m:poles4 dir:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18696 ## mean distance of poles of 'aiueo' of take and yama are as follows.
18697 #  0.116436*  0.132415   0.126448   0.119123   0.147516   #te:take-a->tr:yama-aiueo
18698 #  0.166214   0.133440*  0.136736   0.136465   0.158582   #te:take-i->tr:yama-aiueo
18699 #  0.155907   0.139426   0.135933   0.122639*  0.134053   #te:take-u->tr:yama-aiueo
18700 #  0.151498   0.130018   0.127516   0.124365*  0.143236   #te:take-e->tr:yama-aiueo
18701 #  0.141291   0.147140   0.141551   0.125116*  0.131923   #te:take-o->tr:yama-aiueo
18702 ###te:take-aiueo-t0+100 are recognized as tr:yama-aieee-t0+100 (3/5) via m:poles4N33-33.###
18703
18704 Result of 'vowelrecog te:yama tr:take k:9 N:1-1 m:M4 dir:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18705 ### mean distance of M4 (Associative Matrices) of 'aiueo' of yama and take are as follows.
18706 #  0.520908   1.028258   0.612155   0.878704   0.318913*  #te:yama-a->tr:take-aiueo
18707 #  1.176888   0.348368*  0.851151   0.415153   1.119178   #te:yama-i->tr:take-aiueo
18708 #  0.761902   0.680035   0.299522*  0.570146   0.549299   #te:yama-u->tr:take-aiueo
18709 #  0.857762   0.431191   0.416846   0.324893*  0.671084   #te:yama-e->tr:take-aiueo
18710 #  0.595816   1.193588   0.712987   1.016756   0.303304*  #te:yama-o->tr:take-aiueo
18711 ###te:yama-aiueo-t0+100 are recognized as tr:take-oiueo-t0+100 (4/5) via m:M4N1-1.###
18712 Result of 'vowelrecog te:take tr:yama k:9 N:1-1 m:M4 dir:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18713 ### mean distance of M4 (Associative Matrices) of 'aiueo' of take and yama are as follows.
18714 #  0.550908*  1.176888   0.761902   0.857762   0.595816   #te:take-a->tr:yama-aiueo
18715 #  1.028258   0.851151   0.680035   0.431191   1.193588   #te:take-i->tr:yama-aiueo
18716 #  0.612155   0.878704   0.299522*  0.416846   0.712987   #te:take-u->tr:yama-aiueo
18717 #  0.318913*  0.415153   0.570146   0.324893*  1.016756   #te:take-e->tr:yama-aiueo
18718 #  1.119178   0.318913   0.549299   0.671084   0.303304*  #te:take-o->tr:yama-aiueo
18719 ###te:take-aiueo-t0+100 are recognized as tr:yama-aiueo-t0+100 (5/5) via m:M4N1-1.###
18720
18721 Result of 'vowelrecog te:s-N1t50-350p50-350-take tr:s-N1t50-350p50-350-yama tr:s-N1t50-350-take k:9 N:1-1 m:M4 dir:../on
sei07 T:100 tt:0:100:0:100:100 DISP:2'
18722 ### mean distance of M4 (Associative Matrices) of 'aiueo' of s-N1t50-350-take and s-N1t50-350
p50-350-yama are as follows.
18723 #  0.094494*  0.138795   0.175290   0.157969   0.155482   #te:s-N1t50-350p50-350-take-a->tr:s-N1t50-350
18724 #  0.094494*  0.154973   0.125215   0.115800*  0.141700   #te:s-N1t50-350p50-350-take-i->tr:s-N1t50-3
50p50-350-yama-aiueo
18725 #  0.095586   0.138795   0.094319   0.126152   0.086106*  #te:s-N1t50-350p50-350-take-u->tr:s-N1t50-3
50p50-350-yama-aiueo
18726 #  0.105042   0.138127   0.115800   0.098109   0.089958*  #te:s-N1t50-350p50-350-take-e->tr:s-N1t50-3
50p50-350-yama-aiueo
18727 #  0.250826   0.277581   0.234106*  0.277581   0.269096   #te:s-N1t50-350p50-350-take-o->tr:s-N1t50-3
50p50-350-yama-aiueo
18728 ###te:s-N1t50-350p50-350-take-aiueo-t0+100 are recognized as tr:s-N1t50-350p50-350-yama-auoe-t0+100
(1/5) via m:M4N1-1.###
18729 Result of 'vowelrecog te:s-N1t50-350p50-350-yama-aiueo-t0+100 are recognized as tr:s-N1t50-350p50-350-take-aeeuu-t0+100
sei07 T:100 tt:0:100:0:100:100 DISP:2'
18730 ### mean distance of M4 (Associative Matrices) of 'aiueo' of s-N1t50-350p50-350-yama and s-N1t50-350
p50-350-take are as follows.
18731 #  0.094494*  0.154973   0.095586   0.105042   0.250826   #te:s-N1t50-350p50-350-yama-a->tr:take as
18732 #  0.138795   0.138795   0.125215   0.094319   0.093826*  #te:s-N1t50-350p50-350-yama-i->tr:s-N1t50-3
18733 #  0.115800   0.094319   0.115800   0.126152   0.098109*  #te:s-N1t50-350p50-350-yama-u->tr:s-N1t50-3
18734 #  0.175290   0.157969   0.126152   0.091355*  0.277581   #te:s-N1t50-350p50-350-yama-e->tr:s-N1t50-3
18735 #  0.155482   0.141700   0.086106*  0.137389   0.234106   #te:s-N1t50-350p50-350-yama-o->tr:s-N1t50-3
18736 ###te:s-N1t50-350p50-350-yama-aiueo-t0+100 are recognized as tr:s-N1t50-350p50-350-take-aeeuu-t0+100
(1/5) via m:M4N1-1.###
18737 Result of 'vowelrecog te:s-N1t50-350p50-350-yama tr:s-N1t50-350p50-350-yama k:9 N:33-33 m:poles4 dir
:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18738 ### mean distance of poles of 'aiueo' of s-N1t50-350p50-350-yama are as
follows.
18739 #  0.148333   0.151575   0.134433*  0.151656   0.142001   #te:s-N1t50-350p50-350-take-a->tr:s-N1t50-3
18740 #  0.135644*  0.138795   0.137279   0.154281   0.138375   #te:s-N1t50-350p50-350-take-i->tr:s-N1t50-3
18741 #  0.124345   0.137476   0.127496   0.139592   0.118188*  #te:s-N1t50-350p50-350-take-u->tr:s-N1t50-3
      50p50-350-yama-aiueo
```

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18742  #    0.124858    0.124702*   0.132550    0.149884    0.127172    #te:s-Nlt50-350p50-350-take-e->tr:s-Nlt50-3
50p50-350-yama-aiueo
18743  #    0.149671*   0.153591    0.156381    0.159846    0.156929    #te:s-Nlt50-350p50-350-take-o->tr:s-Nlt50-3
50p50-350-yama-aiueo
18744  ##te:s-Nlt50-350p50-350-take-aiueo-t0+100 are recognized as tr:s-Nlt50-350p50-350-yama-uaoia-t0+100
(0/5) via m:poles4N33-33.###
18745  Result of `vowelrecog te:s-Nlt50-350p50-350-yama tr:s-Nlt50-350p50-350-take k:9 N:33-33 m:poles4 dir
:../onsei07 T:100 tt:0:100:0:100:100 DISP:2'
18746  ## mean distance of poles of `aiueo' of s-Nlt50-350p50-350-yama and s-Nlt50-350p50-350-take are as
follows.
18747  #    0.138187*   0.149875    0.138501    0.144877    0.155438    #te:s-Nlt50-350p50-350-yama-a->tr:s-Nlt50-3
50p50-350-take-aiueo
18748  #    0.137175    0.145110    0.141655    0.128297*   0.143231    #te:s-Nlt50-350p50-350-yama-i->tr:s-Nlt50-3
50p50-350-take-aiueo
18749  #    0.154898    0.148677*   0.153511    0.150732    0.169878    #te:s-Nlt50-350p50-350-yama-u->tr:s-Nlt50-3
50p50-350-take-aiueo
18750  #    0.130095*   0.138894    0.147033    0.147804    0.143434    #te:s-Nlt50-350p50-350-yama-e->tr:s-Nlt50-3
50p50-350-take-aiueo
18751  #    0.122024*   0.130610    0.137063    0.142155    0.143338    #te:s-Nlt50-350p50-350-yama-o->tr:s-Nlt50-3
50p50-350-take-aiueo
18752  ##te:s-Nlt50-350p50-350-yama-aiueo-t0+100 are recognized as tr:s-Nlt50-350p50-350-take-aeiaa-t0+100
(1/5) via m:poles4N33-33.###
18753
18754
18755  Result of `vowelrecog te:yama tr:take k:9 N:1-1 m:poles4 dir:../onsei07 T:100 tt:0:100:0:100:100 DIS
P:2'
18756  ## mean distance of poles of `aiueo' of yama and take are as follows.
18757  #    0.168547*   0.394634    0.273702    0.311134    0.186710    #te:yama-a->tr:take-aiueo
18758  #    0.367569    0.141527*   0.195423    0.208922    0.209149    #te:yama-i->tr:take-aiueo
18759  #    0.375610    0.294139    0.172568*   0.248902    0.326930    #te:yama-u->tr:take-aiueo
18760  #    0.336071    0.233766    0.159652*   0.175180    0.261783    #te:yama-e->tr:take-aiueo
18761  #    0.243492    0.241423    0.259827    0.200907    0.178163*   #te:yama-o->tr:take-aiueo
18762  ##te:yama-aiueo-t0+100 are recognized as tr:take-aiuuo-t0+100 (4/5) via m:poles4Nl-1.###
18763  Result of `vowelrecog te:take tr:yama k:9 N:1-1 m:poles4 dir:../onsei07 T:100 tt:0:100:0:100:100 DIS
P:2'
18764  ## mean distance of poles of `aiueo' of take and yama are as follows.
18765  #    0.257882*   0.375305    0.339055    0.349721    0.272217    #te:take-a->tr:yama-aiueo
18766  #    0.387992    0.339401    0.332496    0.362084    0.287283*   #te:take-i->tr:yama-aiueo
18767  #    0.273702    0.222027    0.164260    0.159652*   0.347727    #te:take-u->tr:yama-aiueo
18768  #    0.287263    0.223398    0.226731    0.175180*   0.259335    #te:take-e->tr:yama-aiueo
18769  #    0.282764    0.374182    0.286546    0.284940    0.178163*   #te:take-o->tr:yama-aiueo
18770  ##te:take-aiueo-t0+100 are recognized as tr:yama-aoeeo-t0+100 (3/5) via m:poles4Nl-1.###
18771
18772  #bagging predictions
18773  #for name in yama ; do for v in a i u e o ; do
18774  #for name in take ; do for v in a i u e o ; do
18775  #for name in take ; do for v in e; do
18776  rm -rf result-ensrs2ge/tmp;
18777  d=".../onsei07"
18778  tf:0/tl:160:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=80;pt=`expr $tt:pl=30;pt=`expr ${pf} + ${pl}`
18779  pl=30 of take-e
18780  #tf=50:tl=150:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=30;pt=`expr ${pf} + ${pl}`    # tl=150 is necessary for
or pl=30 of take-e
18781  #tf=50:tl=100:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=80;pt=`expr ${pf} + ${pl}`
18782  rsa=rsa:2:0.7:1:20 k=45 N=1:6-6:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ;date
18783  cmd="./tspredv3 $d/${name})-${v}.dat ${tf}-${tt}:${pf}-${pt} vt:0.5 vr:10"
18784  $(rsa) k:${k} y:0:0:0 $(g) $(w) T:${T} vt:0.5 vr:10"
18785  $cmd >/dev/null ;date
18786  echo "### Done for $cmd ###"
18787  #MSE=4.439577e+03(NMSE7.383852e-02)(nMSE30) 0-160:160-190k45N6mp1:1:1.000000H1-y take-e
18788
18789  for name in take ; do for v in e; do
18790  rm -rf result-ensrs2ge/tmp;
18791  d="../onsei07"
18792  tf=0:tl=150:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=30;pt=`expr ${pf} + ${pl}`    # tl=150 is necessary for
or pl=30 of take-e
18793  #tf=50:tl=150:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=80;pt=`expr ${pf} + ${pl}`
18794  d="../onsei07"
18795  cmd="../tspredv3 $d/${name}-${v}.dat ${tf}-${tt}:${pf}-${pt} vt:0.5 vr:10"
18796  $(rsa) k:${k} y:0:0:0 $(g) $(w) T:${T} vt:0.5 vr:10"
18797  $cmd >/dev/null ;date
18798  echo "### Done for $cmd ###"
18799  done done
18800  #MSE=1.254976e+05(NMSE4.757149e-01)(n90) 0-150:150-240k27N6mp1:1:1.000000H1-y  #k=27 N=N:6-6:1
18801  #MSE=1.998059e+04(NMSE9.558350e-02)(n30) 0-150:150-180k27N6mp1:1:1.000000H1-y  #k=27 N=N:6-6:1
18802  #MSE=4.370516e+04(NMSE1.090784e-01)(n30) 0-150:150-180k45N3mp1:1:1.000000H1-y  #k=54 N=N:3-3:1
18803  #MSE=3.942118e+04(NMSE1.885837e-01)(n30) 0-150:150-180k54N6mp1:1:1.000000H1-y  #k=54 N=N:6-6:1
18804
```

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18805  #########
18806  #########
18807  #MSE=3.049512e+05(NMSE6.021903e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-a
18808  #MSE=1.140475e+04(NMSE7.060289e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-i
18809  #MSE=4.217961e+04(NMSE1.025295e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-u
18810  #MSE=3.225528e+04(NMSE9.023119e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-e
18811  #MSE=6.002331e+04(NMSE3.823286e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-o
18812
18813  #MSE=6.008982e+06(NMSE5.646903e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y yama-a
18814  #MSE=1.332606e+05(NMSE2.641908e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y yama-i
18815  #MSE=2.123203e+05(NMSE3.681047e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y yama-u
18816  #MSE=2.123203e+05(NMSE3.681047e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y yama-e
18817  #MSE=6.256934e+05(NMSE2.761867e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y yama-o
18818
18819  ##tuning k and N
18820  #MSE=3.049512e+05(NMSE6.021903e-01)(nMSE80)  50-150:150-230k27N6mp1:1:1.000000H1-y take-a
18821  #MSE=3.427732e+05(NMSE6.768777e-01)(nMSE80)  50-150:150-230k27N7mp1:1:1.000000H1-y take-a
18822  #MSE=4.766506e+05(NMSE9.412466e-01)(nMSE80)  50-150:150-230k27N5mp1:1:1.000000H1-y take-a
18823  #MSE=3.809645e+05(NMSE7.522944e-01)(nMSE80)  50-150:150-230k27N8mp1:1:1.000000H1-y take-a
18824  #MSE=3.539924e+05(NMSE6.990323e-01)(nMSE80)  50-150:150-230k26N6mp1:1:1.000000H1-y take-a
18825  #MSE=3.539924e+05(NMSE6.990323e-01)(nMSE80)  50-150:150-230k26N6mp1:1:1.000000H1-y take-a
18826  #MSE=3.605057e+05(NMSE7.118942e-01)(nMSE80)  50-150:150-230k28N6mp1:1:1.000000H1-y take-a
18827
18828  ##############
18829  #single CAN2 predictions
18830
18831  #for name in take yama ; do for v in a i u e o ; do
18832  #for name in take ; do for v in a; do
18833  #for name in yama ; do for v in a i u e o ; do
18834  #for name in yama ; do for v in a i u e o ; do
18835  for name in take ; do for v in e; do
18836  rm -rf result-ensrs2ge/tmp;
18837  d=".../onsei07"
18838  tf=0:tl=100:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=80;pt=`expr ${pf} + ${pl}`
18839  tf=50:tl=150:tt=`expr ${tf} + ${tl}`;pf=$tt:pl=80;pt=`expr ${pf} + ${pl}`
18840  rsa=rsa:-1:0.7:1:20 k=10 N=N:33-33:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ; to
=${frtl}:date
18841  cmd="./tspredv3 $d/${name}-${v}.dat ${tf}-${tt}:${pf}-${pt} vt:0.5 vr:10"
18842  $(rsa) k:${k} y:0:0:1 $(g) $(w) T:${T} vt:0.5 vr:10"
18843  $cmd >/dev/null :date
18844  echo "### Done for $cmd ###"
18845  done done
18846  #MSE=6.890470e+04(NMSE1.360668e-01)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-a
18847  #MSE=8.634091e+03(NMSE5.345070e-01)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-i
18848  #MSE=6.278255e+03(NMSE1.526107e-02)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-u
18849  #MSE=9.322030e+04(NMSE2.607752e+00)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-e
18850  #MSE=1.538107e+05(NMSE9.797233e-01)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-o
18851  ###
18852  #MSE=2.520107e+07(NMSE2.368255e+00)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y yama-a
18853  #MSE=2.040071e+04(NMSE4.044467e-02)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y yama-i
18854  #MSE=6.956364e+04(NMSE1.206041e-01)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y yama-u
18855  #MSE=1.089247e+06(NMSE9.473174e-01)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y yama-e
18856  #MSE=2.375292e+04(NMSE1.048475e-02)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y yama-o
18857
18858  #MSE=6.487764e+05(NMSE1.281145e+00)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-a
18859  #MSE=4.416668e+03(NMSE2.734208e-01)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-i
18860  #MSE=7.533737e+05(NMSE1.831287e+00)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-u
18861  #MSE=6.829932e+03(NMSE1.910611e-01)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-e
18862  #MSE=2.493068e+05(NMSE1.588001e+00)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-o
18863
18864  #MSE=6.829932e+03(NMSE1.910611e-01)(nMSE80)  50-150:150-230k11ON33mp1:1:1.000000H1-y take-e
18865
18866  #MSE=6.829932e+03(NMSE1.910611e-01)(nMSE80)  50-150:150-230k1ON33mp1:1:1.000000H1-y take-e
18867  #MSE=9.322030e+04(NMSE2.607752e+00)(nMSE80)  50-150:150-230k9N33mp1:1:1.000000H1-y take-e
18868  #MSE=3.645950e+04(NMSE1.199216e+00)(nMSE80)  50-150:150-230k11N33mp1:1:1.000000H1-y take-e
18869
18870  #MSE=1.012158e+05(NMSE1.998719e-01)(nMSE80)  50-150:150-230k9N34mp1:1:1.000000H1-y take-a
18871  #MSE=8.118278e+04(NMSE1.603124e-01)(nMSE80)  50-150:150-230k9N32mp1:1:1.000000H1-y take-a
18872
18873  ######
18874  d=../onsei07
18875  for name in take ; do for v in a i u e o; do
18876  for name in take yama; do for v in a i u e o; do
18877  rm -rf result-ensrs2ge/tmp/
18878  rsa=rsa:2:0.7:1:20 k=9 N=1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei1 g=g:5e-3 w=w:0.2 T=100 ;
18879  tf=50:pf=50:tl=300:tt=`expr ${tf} + ${tl}';pt=`expr ${pf} + ${tl}'
18880  time ./tspredv3 $(d)/${name}-${v}.dat ${tf}-${tt}:${pf}-${pt} ${mp} $(H) ${DM} $(H) N:$(N)-$(N)-1 M:1-1:1
18881  ssp:1 $(rsa) k:${k} y:0:0:1 $(g) $(w) T:${T} vt:10 >/dev/null
18882  ###
```

```
18884 cd result-ensrs2ge;
18885 f=`./${d}/s-${name}-N${N}t${tf}-${tt}:${pf}-${pt}-${v}`
18886 p="predictDM0:${pf}-${pt}.dat"
18887 cat ${p} |awk '{print $1-$3}' > ${f}.dat
18888 cat > disp.plt <<EOF
18889 plot "${f}.dat" using 0:(\$3-\$1) t "${f}" w lp: pause -1 "Hit return key to quit"
18890 plot "${f}.dat" using 0:1 t "${f}" w lp: pause -1 "Hit return key to quit"
18891 EOF
18892 xterm -geometry 50x5-0+0 -e gnuplot -geometry 300x210 disp.plt&
18893 cd ..:echo "### Done for ${f} ###"
18894 done ; done
18895 ###############
18896 #te:take-aiueo-t200+100 are recognized as tr:take-aiueo-t100+100 (5/5) via m:M4N1-1.#
18897 vowelrecog te:take    tr:take k:9 N:1-1 m:M4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18898 #  0.563423* 1.131986  0.568556  0.863718  0.326062* #tr:yama-a
18899 #  1.153848  0.295958* 0.853964  0.455469  1.088103  #tr:yama-i
18900 #  0.730116  0.772451  0.263415* 0.529942  0.521324  #tr:yama-u
18901 #  0.821061  0.511239  0.407770  0.312192* 0.679685  #tr:yama-e
18902 #  0.921208  1.556293  1.009119  1.314809  0.791130  #tr:yama-o
18903 vowelrecog te:yama    tr:take k:9 N:1-1 m:M4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18904 #  0.656710  1.131223  0.777335  0.855525  1.063975  #tr:take-a
18905 #  1.157995  0.372779* 0.843944  0.543795  1.598255  #tr:take-i
18906 #  0.542737  0.815621  0.302981* 0.395307  1.017582  #tr:take-u
18907 #  0.846555  0.450016  0.580405  0.287323* 1.304721  #tr:take-e
18908 #  0.291585* 1.133913  0.616411  0.761041  0.549317* #tr:take-o
18909 #te:yama-aiueo-t200+100 are recognized as tr:take-oiueo-t100+100 (4/5) via m:M4N1-1.#
18910 vowelrecog te:yama    tr:take k:9 N:1-1 m:M4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18911 #  0.161366* 1.246872  0.820082  0.988661  0.766090  #tr:take-a
18912 #  1.278183  0.092611* 0.837960  0.403813  1.094997  #tr:take-i
18913 #  0.774329  0.808820  0.062259* 0.517327  0.532643  #tr:take-u
18914 #  0.983702  0.379639  0.535969  0.049177* 0.817323  #tr:take-e
18915 #  0.681487  1.178867  0.668663  0.919566  0.309655* #tr:take-o
18916 vowelrecog te:yama    tr:yama k:9 N:1-1 m:M4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18917 #  0.021799* #te:yama-a    #te:yama-a
18918 #  1.077582  0.060946* 0.899456  0.506348  1.521569  #tr:yama-i
18919 #  0.587509  0.819426  0.149958* 0.393634  1.067111  #tr:yama-u
18920 #  0.647710  0.496562  0.417279  0.045915* 1.111449  #tr:yama-e
18921 #  0.596230  1.478404  0.965302  1.114737  0.072195* #tr:yama-o
18922 #te:yama-aiueo-t200+100 are recognized as tr:yama-aiueo-t100+100 (5/5) via m:M4N1-1.#
18923
18924
18925
18926 vowelrecog te:take    tr:take k:9 N:32-32 m:poles4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18927
18928 #  0.116909* 0.121043  0.130291  0.133333  0.138339  #tr:take-a
18929 #  0.146494  0.104968* 0.132648  0.148425  0.153534  #tr:take-i
18930 #  0.137152  0.126375  0.117118* 0.143906  0.137041* #tr:take-u
18931 #  0.126502  0.117302  0.137926  0.122459* 0.137536  #tr:take-e
18932 #  0.144996  0.136771  0.133920  0.141247  0.140629  #tr:take-o
18933 vowelrecog te:yama    tr:take k:9 N:32-32 m:poles4 dir:${d} T:100 tt:100:100:200:100:100 DISP:2 >/dev/null
18934 #  0.151727  0.191129  0.176004  0.172104  0.168093  #te:take-a
18935 #  0.154508  0.130615  0.136942  0.131971* 0.142230  #te:take-i
18936 #  0.150160  0.137472  0.116308  0.116303  0.136856  #te:take-u
18937 #  0.150221  0.128305  0.114288* 0.134080  0.137803  #te:take-e
18938 #  0.143813  0.136197  0.135274  0.137220  0.128997* #te:take-o
18939 #te:take-aiueo-t100+100 are recognized as tr:take-aiueo-t0+100 (3/5) via m:poles4N32-32.#
18940 vowelrecog te:yama    tr:yama k:9 N:32-32 m:poles4 dir:${d} T:100 tt:100:100:100:100:100 DISP:2 >/dev/nu
18941 #te:take-aiueo-t100+100 are recognized as tr:yama-ueio-t100+100 (1/5) via m:poles4N32-32.#
18942 #te:yama-a #te:yama-u #te:yama-e #te:yama-o
18943 #  0.117026* 0.159062  0.162957  0.188698  0.143003  #tr:yama-a
18944 #  0.150160  0.137472  0.148996  0.185365  0.163551  #tr:yama-i
18945 #  0.135939  0.129713* 0.125451* 0.155459  0.140135  #tr:yama-u
18946 #  0.145534  0.140458  0.152118  0.171100  0.142552  #tr:yama-e
18947 #  0.123885  0.138226  0.149765  0.154351* 0.133097* #tr:yama-o
18948 #te:take-aiueo-t100+100 are recognized as tr:take-aiueo-t0+100 (3/5) via m:poles4N32-32.#
18949 vowelrecog te:yama    tr:yama k:9 N:32-32 m:poles4 dir:${d} T:100 tt:100:100:100:100:100 DISP:2 >/dev/nu
18950 #  0.131173  0.168734  0.151125  0.150487  0.149075  #te:take-a
18951 #  0.117026* 0.159062  0.136898  0.139767  0.137517  #te:take-i
18952 #  0.146672  0.110913* 0.177713  0.130374  0.129852  #te:take-u
18953 #  0.146291  0.120103  0.113849* 0.120596* 0.116984* #te:take-e
18954 #  0.127556* 0.120103  0.113849* 0.120596* 0.116984* #te:take-e
18955 #  0.148701  0.146551  0.133564  0.134501  0.133270  #te:take-o
18956 #te:take-aiueo-t100+100 are recognized as tr:yama-eueee-t0+100 (1/5) via m:poles4N32-32.#
18957
18958
18959
18960
18961 vowelrecogv2 te:yama    tr:take k:9 N:32-32 m:poles4 dir:${d} T:100 tt:0:100:0:100:100 DISP:2 >/dev/nu
```

```
      ll
18962 te:yama-a te:yama-i te:yama-u te:yama-e te:yama-o
18963  0.135603* 0.160961  0.169371  0.177916  0.124141  #tr:take-a
18964  0.157359  0.143948* 0.159693  0.167628  0.136737  #tr:take-i
18965  0.153375  0.145051  0.139545* 0.141245* 0.114194  #tr:take-u
18966  0.147347  0.146818  0.152970  0.145547  0.120908  #tr:take-e
18967  0.137306  0.161887  0.155888  0.143734  0.103554* #tr:take-o
18968 #te:yama-aiueo-t0+100 are recognized as tr:take-aiueo-t0+100 (4/5) via m:poles4N32-32.#
18969 vowelrecog te:yama    tr:take k:9 N:32-32 m:poles4 dir:${d} T:100 tt:0:100:0:100:100 DISP:2 >/dev/null
18970 #te:take-a te:take-i te:take-u te:take-e te:take-o
18971 #  0.117247* 0.164887  0.155123  0.159196  0.138829  #tr:yama-a
18972 #  0.135620  0.141590  0.150107  0.135422  0.150593  #tr:yama-i
18973 #  0.128145  0.134726* 0.137770  0.127985  0.145195  #tr:yama-u
18974 #  0.121051  0.135865  0.118954* 0.123648* 0.122976* #tr:yama-e
18975 #  0.148171  0.159466  0.137180  0.150252  0.130268  #tr:yama-o
18976 ##te:take-aiueo-t0+100 are recognized as tr:yama-auee-t0+100 (2/5) via m:poles4N32-32.#
18977 vowelrecogv2 te:yama    tr:yama k:9 N:32-32 m:poles4 dir:${d} T:100 tt:500:500:500:500:100 DISP:2 >/de
      v/null
18978
18979 #######################
18980
18981 070117
18982 for name in yama ; do for v in a i u e o; do
18983 rm -rf result-ensrs2ge/tmp;
18984 ft-800:fr=${ft};tl=120:frtl=`expr ${fr} + ${tl}` ; ;
18985 rsa=rsa:2:0.7:1:20 k=9 N=3 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frtl};d
      ate
18986 time ./tspredv3 ../onsei07/${name}-${v}.dat 0-0:${t}:${fr}-${to} $[t]:${fr}-${to} >/dev/null
18987 ###
18988 cd result-ensrs2ge;
18989 f=${name}-${v}-N${N}t${tl}:${fr}-${tl}
18990 cp predictDM0:${fr}-`expr ${fr} + ${tl}`.dat ${f}.dat
18991 cat > disp.plt <<EOF
18992 plot "${f}.dat" using 0:(\$1-\$3) t "${f}" w lp: pause -1 "Hit return key to quit"
18993 EOF
18994 xterm -geometry 50x5-0+0 -e gnuplot -geometry 300x210 disp.plt& :cd ..;
18995 echo "### Done for ${f} ###"
18996 echo "### Done for ${f} ###"
18997 done ; done
18998 ###
18999
19000 #for name in take ; do for v in a i u e o; do
19001 for name in take ; do for v in a; do
19002 rm -rf result-ensrs2ge/tmp;
19003 rsa=rsa:2:0.7:1:20 k=27 N=3 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
19004 #fr=1600:tl=160:frtl=`expr ${fr} + ${tl}` ; :to=${frtl};
19005 #time ./tspredv3 ../onsei07/${name}-${v}/onsei07/${name}-${fr}-${to} ${fr}:${fr}-${to} ${mp} ${DM} N:${N}-${N}-1 M:1-
19006 1:1 ssp:1 ib:0:0:0:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null
19007 ft=1600:tl=160:frtl=`expr ${fr} + ${tl}` -${to} ${fr}:${fr}-${to} ${mp} ${DM} N:${N}-${N}-1 M:1-
19008 :1 ssp:1 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null
19009 ###
19010 cd result-ensrs2ge;
19011 f=${name}-${v}-N${N}t${fr}-${tl}
19012 cp predictDM0:${fr}-`expr ${fr} + ${tl}`.dat ${f}.dat
19013 cat > disp.plt <<EOF
19014 plot "${f}.dat" using 0:(\$1-\$3) t "${f}" w lp: pause -1 "Hit return key to quit"
19015 EOF
19016 xterm -geometry 50x5-0+0 -e gnuplot -geometry 300x210 disp.plt&
19017 cd ..;echo "### Done for ${f} ###"
19018 done ; done
19019 ####################
19020 ###
19021
19022 061218
19023 (1) y:0:0:0:1 で行う。
19024 #for name in take yama ; do for v in a i u e o; do
19025 for name in yama ; do for v in a i u e o; do
19026 rm -rf result-ensrs2ge/tmp;
19027 fr=200 tl=80: frtl=`expr ${fr} + ${tl}`
19028 rsa=rsa:-1:0.7:1:20 k=27 N=N:27-27:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to
      =${frtl};date
19029 =${frtl}:date
19030 time ./tspredv3 ../onsei07/${name}-${v}.dat 0:${fr}-${to} vt:0.5 vr:10 >/dev/null
19031 :0:0:${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null
19032 echo "### Done for ${name}-${v} ###"
19033 ## result for rsa-1:0.7:1:20
19034 #MSE=2.748788e+04(NMSE5.964595e-02)(nMSE80) 0-200:200-280K27N27mp1:1:1.000000H1-y
```

```
19035   #MSE=2.197198e+04(NMSE1.348575e+00)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19036   #MSE=5.365675e+03(NMSE5.521246e-02)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19037   #MSE=1.759523e+03(NMSE5.263299e-02)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19038   #MSE=9.047537e+01(NMSE1.729125e-02)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19039   ## result for rsa:2:0.7:1:20
19040   #MSE=3.134008e+04(NMSE6.800483e-02)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19041   #MSE=3.525857e+03(NMSE2.164067e-01)(nMSE80)  0-200:200-280k27N27mp1:1:1.000000H1-y
19042
19043
19044   #for name in take yama ; do  for v in a i u e o ; do
19045   for name in take ; do for v in a i u e o; do
19046   rm -rf result-ensrs2ge/tmp;
19047   fr=1500 tl=80; frtl=`expr ${fr} + ${tl}`
19048   rsa=rsa:-1:0.7:1:20 k=27 N=N:27-27:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; t
o=${frtl}:date
19049   rsa=rsa:2:0.7:1:20 k=27 N=N:27-27:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; t
o=${frtl}:date
19050   time ./tspredv3 ../onsei07/${name}-${v}.dat 0-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null
:0:0 ${rsa} k:${k} y:0:0:1 ${g} ${w} T:${T} ${v} ###"
19051   echo "### Done for ${name}-${v} ###"
19052   done ; done
19053   ## result for rsa:-1:0.7:1:20
19054   #MSE=4.961844e+04(NMSE9.366967e-02)(nMSE80)  0-1500:1500-1580k27N27mp1:1:1.000000H1-y
19055   #MSE=5.479080e+03(NMSE3.213139e-01)(nMSE80)  0-1500:1500-1580k27N27mp1:1:1.000000H1-y
19056   #MSE=3.420459e+03(NMSE8.794407e-03)(nMSE80)  0-1500:1500-1580k27N27mp1:1:1.000000H1-y
19057   #MSE=1.063170e+03(NMSE3.479607e-02)(nMSE80)  0-1500:1500-1580k27N27mp1:1:1.000000H1-y
19058   #MSE=1.000230e+04(NMSE6.986406e-02)(nMSE80)  0-1500:1500-1580k27N27mp1:1:1.000000H1-y
19059   ## result for rsa:2:0.7:1:20
19060
19061
19062
19063
19064   061130
19065   (1) can2の時系列処理の入力の指定に
19066       <ttrainfrom>-<ttrainto>-<tpredfrom>-<tpredto>
19067       の形を導入した。<tpredfrom>は<ttrainto>より小さくてもよいし、
19068       <tpredto>は時系列データファイルのデータ数より
19069       大きくても良い。
19070   (2) 予測範囲が長すぎると訓練データ自体の信頼性が落ちるかもしれない。
19071       061129の実験でtl=80（≒100ms）として再実験してみた。
19072       結果として、DiffMode:0のバギング（下の(2-2-1)参照）が同じ学習パラメー
19073       タで最良のMSEを出した（下の(2-1),(2-1-2)）は速く、MSEもまあまあ良い。
19074
19075
19076
19077
19078   (2) DiffMode:0 == DirectMode
19079   (2-1) single CAN2の結果 (rsa=-1:0.7:1:20) with k=27 N:39
19080   for name in eguti sawa ; do for v in a i u e o ; do
19081   rm -rf result-ensrs2ge/tmp;
19082   fr=2000 tl=80; frtl=`expr ${fr} + ${tl}`
19083   rsa=rsa:-1:0.7:1:20 k=27 N=N:39-39:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to
=${frtl}:date
19084   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null:date
0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} ${v} ###"
19085   echo "### Done for ${name}-${v} ###"
19086   done ; done
19087   #MSE=1.777335e+01(NMSE1.985829e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  eguti-a
19088   #MSE=5.603460e+02(NMSE2.063091e-01)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  eguti-i
19089   #MSE=5.603460e+02(NMSE2.063091e-01)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  eguti-u
19090   #MSE=4.020733e+01(NMSE2.318406e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  eguti-e
19091   #MSE=6.204179e+00(NMSE3.906233e-03)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  eguti-o
19092   #MSE=4.401718e+01(NMSE1.546998e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  sawa-a
19093   #MSE=4.900717e+01(NMSE1.546998e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  sawa-i
19094   #MSE=1.514313e+02(NMSE5.856770e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  sawa-u
19095   #MSE=1.380537e+02(NMSE5.994129e-02)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  sawa-e
19096   #MSE=1.822799e+01(NMSE6.602814e-03)(t:2000-2080)  0-2000:2000-2080k27N39mp1:1:1.000000H1-y  sawa-o
19097   (2-1-2) with k=9 N:33
19098   for name in eguti sawa ; do
19099   for v in a i u e o ; do
19100   rm -rf result-ensrs2ge/tmp;
19101   fr=2000 tl=80; frtl=`expr ${fr} + ${tl}`
19102   rsa=rsa:-1:0.7:1:20 k=9 N=N:33-33:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frtl}:date
19103   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null:date
0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} ${v} ###"
19104   echo "### Done for ${name}-${v} ###"
19105   done ; done
19106   #MSE=7.599102e+02(NMSE8.490528e-01)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-a
19107   #MSE=6.658584e+01(NMSE2.451567e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-i
19108   #MSE=1.004734e+02(NMSE2.969160e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-u
19109   #MSE=1.192962e+02(NMSE9.845795e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-e
```

```
19110   #MSE=3.090551e+01(NMSE1.945852e-02)(t:2000-2080k9N33mp1:1:1.000000H1-y  eguti-o
19111   #MSE=2.961170e-01(NMSE5.804235e-03)(t:2000-2080k9N33mp1:1:1.000000H1-y  sawa-a
19112   #MSE=8.172031e+01(NMSE2.579499e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-i
19113   #MSE=9.047537e+01(NMSE1.499233e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-u
19114   #MSE=4.433184e+01(NMSE1.924836e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-e
19115   #MSE=6.278088e+01(NMSE2.962983e-02)(t:2000-2080)  0-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-o
19116   (2-1-3) with k=9 fr0=1200
19117   for name in eguti sawa ; do
19118   for v in a i u e o ; do
19119   rm -rf result-ensrs2ge/tmp;
19120   fr=2000 tl=80; frtl=`expr ${fr} + ${tl}` ; fr0=1200
19121   rsa=rsa:-1:0.7:1:20 k=9 N=N:33-33:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frtl}:date
19122   time ./tspredv3 ../data/${name}-${v}.dat ${fr0}-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null:date
:0:0:0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} ${v} ###"
19123   echo "### Done for ${name}-${v} ###"
19124   done ; done
19125   #MSE=2.269411e+02(NMSE2.535628e-01)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-a
19126   #MSE=1.250799e+02(NMSE4.605211e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-i
19127   #MSE=6.619580e+01(NMSE1.956198e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-u
19128   #MSE=3.119275e+03(NMSE2.574412e+00)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-e
19129   #MSE=3.123920e+01(NMSE1.966861e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  eguti-o
   NG
19130   #MSE=6.176744e+01(NMSE3.210713e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-a
19131   #MSE=1.378651e+02(NMSE4.351702e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-i
19132   #MSE=1.460155e+01(NMSE5.647308e-03)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-u
19133   #MSE=9.141008e+01(NMSE3.969917e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-e
19134   #MSE=6.743741e+01(NMSE3.182751e-02)(t:2000-2080)  1200-2000:2000-2080k9N33mp1:1:1.000000H1-y  sawa-o
19135
19136
19137   (2-2) バギング CAN2の結果  (using rsa:2:0.7:1:20)  →  eguti-a を除いて上の結果 (singleCAN2)より良い。
19138   (2-2-1) k=27 N:11
19139   for name in eguti sawa ; do
19140   for v in a i u e o ; do
19141   rm -rf result-ensrs2ge/tmp;
19142   fr=2000 tl=80; frtl=`expr ${fr} + ${tl}`
19143   rsa=rsa:2:0.7:1:20 k=27 N=N:11-11:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frtl}:date
19144   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null:date
0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} ${v} ###"
19146   echo "### Done for ${name}-${v} ###"
   done ; done
19147   #MSE=7.662499e+01(NMSE8.561362e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-a
19148   #MSE=1.874264e+02(NMSE6.900693e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-i
19149   #MSE=1.281192e+02(NMSE3.792049e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-u
19150   #MSE=1.269720e+01(NMSE1.047930e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-e
19151   #MSE=2.207090e+00(NMSE1.389613e-03)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-o
19152   #MSE=7.397965e+01(NMSE1.450087e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  sawa-a
19153   #MSE=3.649032e+01(NMSE1.151814e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  sawa-i
19154   #MSE=7.119636e+01(NMSE2.753596e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  sawa-u
19155   #MSE=3.778879e+01(NMSE1.640745e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  sawa-e
19156   #MSE=2.122361e+01(NMSE1.001662e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  sawa-o
19157
19158   #MSE=7.905030e+01(NMSE8.832344e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-a rs
a:2:0.7:11:20
19159   #MSE=8.218173e+01(NMSE9.182220e-02)(t:2000-2080)  0-2000:2000-2080k27N11mp1:1:1.000000H1-y  eguti-a rs
a:2:0.7:11:50 why worse?
19160   (2-2-2) k=9 N=N:11
19161   for name in eguti sawa ; do
19162   for v in a i u e o ; do
19163   rm -rf result-ensrs2ge/tmp;
19164   fr=2000 tl=80; frtl=`expr ${fr} + ${tl}`
19166   rsa=rsa:2:0.7:1:20 k=9 N=N:11 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frtl}
NN=N:${N}-${N}:1 :date
19167   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} vt:0.5 vr:10 >/dev/null:date
:0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} ${v} ###"
19168   echo "### Done for ${name}-${v} ###"
19169   done ; done
19170   #MSE=8.505816e+02(NMSE9.503605e-01)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  eguti-a
19171   #MSE=1.188184e+02(NMSE4.374676e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  eguti-i
19172   #MSE=1.628271e+02(NMSE4.811817e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  eguti-u
19173   #MSE=2.455665e+01(NMSE2.026719e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  eguti-e
19174   #MSE=8.688178e+01(NMSE5.470193e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  eguti-o
19175   #MSE=6.878565e+01(NMSE1.348278e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  sawa-a
19176   #MSE=7.592258e+01(NMSE2.396491e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  sawa-i
19177   #MSE=7.629008e+01(NMSE2.950601e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  sawa-u
19178   #MSE=4.015371e+01(NMSE1.743426e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  sawa-e
19179   #MSE=5.015262e+01(NMSE2.369985e-02)(t:2000-2080)  0-2000:2000-2080k9N11mp1:1:1.000000H1-y  sawa-o
19180
19181
19182   #MSE=7.474199e+02(NMSE8.350972e-01)(t:2000-2080)  0-2000:2000-2080k9N10mp1:1:1.000000H1-y  real7m9.260
```

```
suser3m15.175s
19183   () DiffMode:1
19184   for name in eguti ; do ; for v in a ; do
19185   for name in eguti ; do ; for v in a ; do
19186   rm -rf result-ensrs2ge/tmp;
19187   fr=2000 t1=80; frt1=`expr ${fr} + ${t1}`
19188   rsa=rsa-1:0.7:1:20 k=28 N=36 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=${frt1
}:NN=N:${N}:1:date
19189   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} ${tmp} ${H} ${DM} ${mp} ${NN} M:1-1:1 ib:0:0:0
:0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19190   echo "### Done for ${name}-${v}` ###"
19191   done ; done
19192  #MSE=2.034968e+01(NMSE2.273684e-02)(NMSEdy5.944871e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy eguti-a
19193  #MSE=1.09775e+03(NMSE4.041733e-01)(NMSEdy1.282771e+00)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy eguti-i
19194  #MSE=8.766312e+01(NMSE1.226036e-01)(NMSEdy1.266366e-01)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy eguti-u
19195  #MSE=8.184390e+02(NMSE1.802829e-01)(NMSEdy1.883234e-01)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy eguti-e
19196  #MSE=2.229200e+01(NMSE1.403534e-02)(NMSEdy7.525847e+00(NMSEdy1.933243e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy eguti-o
19197  #MSE=3.906478e+00(NMSE1.657148e-02)(NMSEdy1.751304e+00(NMSEdy8.892970e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy sawa-a
19198  #MSE=5.008910e+02(NMSE1.581059e-01)(NMSEdy1.757534e+02(NMSEdy8.934986e-01)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy sawa-i
19199  #MSE=6.733366e+01(NMSE1.307312e-02)(NMSEdy2.604202e-02)(NMSEdy2.790906e+01(NMSEdy9.394909e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy sawa-u
19200  #MSE=3.010935e+01(NMSE1.307312e-02)(NMSEdy2.896697e+01(NMSEdy6.410817e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy sawa-e
19201  #MSE=1.542055e+01(NMSE2.277826e-03)(NMSEdy5.531442e+00(NMSEdy1.236006e-02)(t:2000-2080)  0-2000:2000-
2080k28N36mp1:1:1.000000H1-dy sawa-o
19202
19203  #MSE=2.034968e+01(NMSE2.273684e-02)(NMSEdy5.944871e-02)(t:2000-2080)  0-2000:2000-
2080k28N37mp1:1:1.000000H1-dy eguti-a
19204  #MSE=3.162893e+01(NMSE3.533921e-02)(NMSEdy1.983809e+01(NMSEdy1.918518e-02)(t:2000-2080)  0-2000:2000-
2080k28N35mp1:1:1.000000H1-dy
19205  #MSE=6.676905e+01(NMSE1.460151e-02)(NMSEdy8.139692e-02)(t:2000-2080)  0-2000:2000-
2080k27N3mp1:1:1.000000H1-dy
19206  #MSE=2.241226e+01(NMSE2.504137e-02)(NMSEdy1.449823e+01(NMSEdy5.056246e-02)(t:2000-2080)  0-2000:2000-
2080k28N38mp1:1:1.000000H1-dy
19207  #MSE=2.916421e+01(NMSE3.258537e-02)(NMSEdy1.736472e+01(NMSEdy6.055933e-02)(t:2000-2080)  0-2000:2000-
2080k28N38mp1:1:1.000000H1-dy
19208  #MSE=3.064337e+01(NMSE3.423805e-02)(NMSEdy2.036636e+01(NMSEdy7.102750e-02)(t:2000-2080)  0-2000:2000-
2080k29N3mp1:1:1.000000H1-dy
19209  #MSE=4.794899e+01(NMSE5.357373e-02)(NMSEdy1.977626e+01(NMSEdy6.896953e-02)(t:2000-2080)  0-2000:2000-
2080k27N38mp1:1:1.000000H1-dy
19210  #MSE=4.920380e+01(NMSE5.497574e-02)(NMSEdy2.037126e+01(NMSEdy7.104460e-02)(t:2000-2080)  0-2000:2000-
2080k27N37mp1:1:1.000000H1-dy
19211  #MSE=5.006442e+01(NMSE5.593731e-02)(NMSEdy1.893499e+01(NMSEdy6.603561e-02)(t:2000-2080)  0-2000:2000-
2080k27N39mp1:1:1.000000H1-dy
19212  #MSE=7.023986e+01(NMSE7.847946e-02)(NMSEdy3.446827e+01(NMSEdy1.202078e-01)(t:2000-2080)  0-2000:2000-
2080k26N38mp1:1:1.000000H1-dy
19213
19214  #############
19215  #############
19216   061129
19217   (1) CAN2を用いる時系列予測のユーティリティソフト tspredv3の機能を整備してきた。
19218      y:<ymin0>:<ymin>:<ymax>は、基本的に <ymin0>:<ymax0>の範囲の信号を
19219      <ymin>:<ymax>の範囲に正規化して学習するが、  061129のバージョンでは
19220      y:0:i:<ymin>:i <ymax>とすると、訓練時系列の最小値と最大値をそれぞれ自動的に
19221      求め<ymin0>:<ymax0>に設定する。
19222   (1) 以前は、bestmsp.net 再現していたが、これは予測値が既知でないところ
19223      y:0. また学習パラメータをデータに応じて変えていた。最近、
19224      last.net でも良い予測ができるようなパラメータがあるので結果を示す。
19225      (但し、以下の結果は予測ステップ数を100にしているから良い?)
19226   (2) DiffMode:0 == DirectMode
19227   (2-1) single CAN2の結果 (using rsa:-1:0.7:1:20)
19228   for name in eguti sawa ; do
19229   for v in a i u e o ; do
19230   rm -rf result-ensrs2ge/tmp;
19231   #fr=2000 ts=100 t1=100; frt1=`expr ${fr} + ${t1}` ;fits=`expr ${fr} + ${ts}` ;
19232   fr=2000 t1=100; frt1=`expr ${fr} + ${t1}` ;
19233   fr=2000 t1=100; frt1=`expr ${fr} + ${t1}` ;
19234   rsa=rsa-1:0.7:1:20 k=27 N=39-39:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to
=${frt1}:date
19235   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} ${tmp} ${H} ${DM} ${mp} M:1-1:1 ib:0:0:0:
0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19236   echo "### Done for ${name}-${v}` ###"
19237   done ; done
19238  #MSE=2.963505e+01(NMSE2.972283e-02)(t:2000-2100)(t:2000-2100k27N39mp1:1:1.000000H1-y eguti-a
19239  #MSE=6.696176e+02(NMSE2.375721e-01)(t:2000-2100)(t:2000-2100k27N39mp1:1:1.000000H1-y eguti-i
```

```
19240  #MSE=6.984699e+02(NMSE2.092091e-01)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y eguti-u
19241  #MSE=6.689679e+01(NMSE5.413557e-01)(NMSE9.362253e-03)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y eguti-e
19242  #MSE=1.526795e+01(NMSE9.362253e-03)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y eguti-o
19243  #MSE=1.456017e+00(NMSE2.705517e-02)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y sawa-i
19244  #MSE=6.432682e+01(NMSE2.098096e-02)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y sawa-i
19245  #MSE=1.543810e+02(NMSE6.245215e-02)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y sawa-u
19246  #MSE=3.276432e+02(NMSE1.391842e-01)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y sawa-e
19247  #MSE=3.449691e+01(NMSE1.532200e-02)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y sawa-o
19248  #forTuningParameters#MSE=1.518723e+02(NMSE1.500160e-01)(t:2000-2100)  0-2000:2100-2100k38N39mp1:1:1:0
00000H1-y eguti-a
19249  #forTuningParameters#MSE=2.963505e+01(NMSE2.927283e-02)(t:2000-2100)  0-2000-2100k27N38mp1:1:1.0
00000H1-y eguti-a
19250  #forTuningParameters#MSE=4.204619e-01(NMSE4.153227e-02)(t:2000-2100)  0-2000-2100k27N40mp1:1:1.0
00000H1-y eguti-a
19251  #forTuningParameters#MSE=6.823106e+01(NMSE6.739708e-02)(t:2000-2100)  0-2000-2100k27N40mp1:1:1.0
00000H1-y eguti-a
19252  #forTuningParameters#MSE=7.518025e+01(NMSE7.426134e-02)(t:2000-2100)  0-2000-2100k25N39mp1:1:1.0
00000H1-y eguti-a
19253  #forTuningParameters#MSE=1.044864e+02(NMSE1.032093e-01)(t:2000-2100)  0-2000-2100k26N39mp1:1:1.0
00000H1-y eguti-a
19254  #forTuningParameters#MSE=1.756519e+02(NMSE1.735050e-01)(t:2000-2100)  0-2000-2100k24N38mp1:1:1.0
00000H1-y eguti-a
19255  #forTuningParameters#MSE=1.651647e+02(NMSE1.631459e-01)(t:2000-2100)  0-2000-2100k17N40mp1:1:1.0
00000H1-y eguti-a
19256  #forTuningParameters#MSE=1.659229e+02(NMSE1.638949e-01)(t:2000-2100)  0-2000-2100k17N41mp1:1:1.0
00000H1-y eguti-a
19257  #forTuningParameters#MSE=1.669030e+02(NMSE1.648630e-01)(t:2000-2100)  0-2000-2100k17N39mp1:1:1.0
00000H1-y eguti-a
19258  #forTuningParameters#MSE=1.765225e+02(NMSE1.743649e-01)(t:2000-2100)  0-2000-2100k17N43mp1:1:1.0
00000H1-y eguti-a
19259  #forTuningParameters#MSE=1.681765e+02(NMSE1.661209e-01)(t:2000-2100)  0-2000-2100k17N45mp1:1:1.0
00000H1-y eguti-a
19260  #forTuningParameters#MSE=1.969462e+02(NMSE1.945389e-01)(t:2000-2100)  0-2000-2100k17N35mp1:1:1.0
00000H1-y eguti-a
19261  #forTuningParameters#MSE=2.080792e+02(NMSE2.053359e-01)(t:2000-2100)  0-2000-2100k17N33mp1:1:1.0
00000H1-y eguti-a
19262  #forTuningParameters#MSE=2.124515e+02(NMSE2.098548e-01)(t:2000-2100)  0-2000-2100k17N32mp1:1:1.0
00000H1-y sawa-a
19263
19264   (2-2) パギング CAN2の結果 (using rsa:2:0.7:1:20) → eguti-a を除いて上の結果 (singleCAN2)より良い。
19265   for name in eguti sawa ; do
19266   for v in a i u e o ; do
19267   rm -rf result-ensrsage/tmp;
19268   fr=2000 ts=100 t1=100; frt1=`expr ${fr} + ${t1}` ;fits=`expr ${fr} + ${ts}` ;
19269   rsa=rsa:2:0.7:1:20 k=27 N=N-11-11:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frt1}:date
19270   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} ${tmp} ${H} ${DM} ${mp} M:1-1:1 ib:0:0:0:
0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19271   echo "### Done for ${name}-${v}` ###"
19272   done ; done
19273  #MSE=6.941099e+01(NMSE6.856260e-02)(t:2000-2100)  0-2000-2100k27N39mp1:1:1.000000H1-y eguti-a y:
0:0:0:1
19274  #MSE=1.536815e+02(NMSE1.518031e-01)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-a y:
0:0:0:1
19275  #MSE=1.342190e+02(NMSE1.325784e-01)(t:2000-2100)  0-2000-2100k27N20mp1:1:1.000000H1-y eguti-a y:
0:0:0:1
19276  #MSE=1.229033e+03(NMSE1.214011e+00)(t:2000-2100)  0-2000-2100k27N10mp1:1:1.000000H1-y eguti-a
rsa:2:0.7:1:40
19277  #MSE=1.747958e+02(NMSE1.726593e-01)(t:2000-2100)  0-2000-2100k27N10mp1:1:1.000000H1-y eguti-a
19278  #MSE=1.624615e+02(NMSE1.604757e-01)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-a
19279  #MSE=2.377505e+02(NMSE2.435097e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-u
19280  #MSE=1.795480e+02(NMSE5.377911e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-e
19281  #MSE=1.184810e+01(NMSE5.879954e-03)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-o
19282  #MSE=2.498368e+00(NMSE1.531991e-03)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-a
19283  #MSE=8.899648e+01(NMSE1.653700e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-i
19284  #MSE=7.522209e+01(NMSE2.453458e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-u
19285  #MSE=8.547527e+01(NMSE3.457753e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-e
19286  #MSE=7.878061e+01(NMSE3.346634e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-o
19287  #MSE=3.562700e+01(NMSE1.582394e-02)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y sawa-o
19288
19289   (2-3) eguti-aだけデータスティングしてみる (using rsa:2:0.7:1:20 and Tbst:10)
19290   for name in eguti ; do
19291   for v in a ; do
19292   rm -rf result-ensrs2ge/tmp;
19293   fr=2000 ts=100 t1=100; frt1=`expr ${fr} + ${t1}` ;fits=`expr ${fr} + ${ts}` ;
19294   rsa=rsa:2:0.7:1:20 k=27 N=N-11-11:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frt1}:date
19295   time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to} Tbst:10 ${H} ${DM} k:${k} ${H} ${N} M:1-1:1 i
b:0:0:0:0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19296   echo "### Done for ${name}-${v}` ###"
19297   done ; done
19298  #MSE=1.698668e+02(NMSE1.677906e-01)(t:2000-2100)  0-2000-2100k27N11mp1:1:1.000000H1-y eguti-a
```

```
19299
19300 (注意) 下記の 071126の 時間差分時系列 dy(t)=y(t)-y(t-1) (DiffMode:1) による
19301       多段予測は結構安定しているが、DiffMode:1 より精度は悪い?
19302
19303 ################
19304 061126
19305 (1) 時間差分時系列 dy(t)=y(t)-y(t-1)による多段予測←Seems good! Why??
19306 (1-1) 以前は、bestmsp.net で再現していたが、これは予測が既知でないとできない。
19307 (1-2) last.net を用いると、DiffMode:0 では今までうまく行かない場合があるが、
19308      DiffMode:1では すべてうまくいく (NMSE<1)! ← Why? Analyse it!!!!!
19309
19310 for name in eguti sawa ; do
19311 for v in a i u e o ; do
19312 rm -rf result-ensrs2ge/tmp;
19313 fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${ts}` ;
19314 rsa=rsa-1:0.7:1:20 k=9 N=N1:32-32:1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=$
{frtl};date
19315 time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}-${to} 0-${fr}:${T}:${w} T:${T} ${DM} ${N} $
0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19316 echo "### Done for ${name}-${v}" ###"
19317 done ; done
19318 ###for y:0:0:0:1
19319 #MSE=6.263483e+02(NMSE6.186926e-01) MSEdy8.879226e-01) eguti-a
19320 #MSE=3.988064e+02(NMSE1.414916e-01) eguti-i
19321 2100k9N32mp1:1:1.000000H1-dy eguti-u
19322 2100k9N32mp1:1:1.000000H1-dy eguti-e
19323 #MSE=1.045830e+02(NMSE6.412997e-02) eguti-o
19324 #MSE=3.138929e+00(NMSE5.832643e-02) sawa-a
19325 #MSE=3.810465e+02(NMSE1.242828e-01) sawa-i
19326 2100k9N32mp1:1:1.000000H1-dy sawa-u
19327 #MSE=1.624228e+02(NMSE6.899793e-02) sawa-e
19328 #MSE=1.445319e+02(NMSE6.194470e-02) sawa-o
19329
19330 ###for y:-65:65:0:1
19331 #MSE=6.535390e+02(NMSE6.277709e-01) eguti-a
19332 #MSE=3.434669e+02(NMSE1.218579e-01) eguti-i
19333 #MSE=2.958680e+02(NMSE8.861983e-02) eguti-u
19334 #MSE=1.112579e+02(NMSE6.003432e-02) eguti-e
19335 #MSE=2.754814e+02(NMSE1.689243e-01) eguti-o
19336 #MSE=3.945766e+00(NMSE7.331878e-02) sawa-a
19337 #MSE=2.301742e+02(NMSE7.507406e-02) sawa-i
19338 #MSE=1.249554e+02(NMSE5.054852e-02) sawa-u
19339 #MSE=1.036524e+02(NMSE4.403197e-02) sawa-e
19340 #MSE=1.662462e+02(NMSE7.383921e-02) sawa-o
19341
19342 ###for y:-60:60:0:1
19343 #MSE=6.315565e+02(NMSE6.238372e-01) eguti-a
19344 #MSE=2.627844e+02(NMSE9.323271e-02) eguti-i
19345 #MSE=2.955944e+02(NMSE8.853789e-02) eguti-u
19346 #MSE=1.144599e+02(NMSE6.262551e-02) eguti-e
19347 #MSE=2.801220e+02(NMSE1.717698e-01) eguti-o
19348 #MSE=4.074552e+00(NMSE7.571184e-02) sawa-a
19349 #MSE=2.272529e+02(NMSE7.412125e-02) sawa-i
19350 #MSE=1.395245e+02(NMSE5.644218e-02) sawa-u
```

```
19351 #MSE=1.412905e+02(NMSE6.002080e-02) sawa-e
19352 #MSE=1.454522e+02(NMSE6.460345e-02) sawa-o
19353
19354 (2) 時間差分時系列 dy(t)=y(t)-y(t-1)による多段予測+バギング → eguti-eが悪くなる
19355 for name in eguti sawa ; do
19356 for v in a i u e o ; do
19357 rm -rf result-ensrs2ge/tmp;
19358 fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${ts}` ;
19359 rsa=rsa-2:0.7:1:20 k=9 N=N1:10-10:1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=$
{frtl};date
19360 time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}-${to} 0-${fr}:${T}:${w} T:${T} ${DM} ${N} $
0 ${rsa} k:${k} y:-65:65:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19361 echo "### Done for ${name}-${v}" ###"
19362 done ; done
19363 y:0:0:0:1
19364 #MSE=1.989444e+02(NMSE1.965127e-01) eguti-a
19365 #MSE=1.414866e+02(NMSE5.019773e-02) eguti-i
19366 2100k9N10mp1:1:1.000000H1-dy eguti-u
19367 #MSE=4.014339e+03(NMSE3.248564e+00) eguti-e NG
19368 #MSE=1.517007e+02(NMSE9.302236e-02) eguti-o
19369 2100k9N10mp1:1:1.000000H1-dy sawa-a
19370 2100k9N10mp1:1:1.000000H1-dy sawa-i
19371 #MSE=1.049538e+02(NMSE4.245724e-02) sawa-u
19372 #MSE=4.797429e+01(NMSE2.037969e-02) sawa-e
19373 #MSE=1.630154e+02(NMSE7.240425e-02) sawa-o
19374
19375 y:-65:65:0:1
19376 #MSE=1.732153e+02(NMSE1.710982e-01) eguti-a
19377 #MSE=1.534311e+02(NMSE5.443549e-02) eguti-i
19378 2100k9N10mp1:1:1.000000H1-dy eguti-u
19379 #MSE=5.161555e+03(NMSE4.176937e+00) eguti-e NG
19380 #MSE=1.315890e+02(NMSE8.068996e-02) eguti-o
19381 #MSE=2.500633e+00(NMSE4.646584e-02) sawa-a
19382 #MSE=3.812440e+02(NMSE1.243473e-01) sawa-i
19383 #MSE=9.918936e+01(NMSE4.012532e-02) sawa-u
19384 #MSE=6.007548e+01(NMSE2.552032e-02) sawa-e
19385 #MSE=1.574827e+02(NMSE6.994685e-02) sawa-o
19386
19387 rm -rf result-ensrs2ge/tmp;
19388 fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${ts}` ;
19389 rsa=rsa-2:0.7:1:20 k=9 N=N1:10-10:1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=$
{frtl};date
19390 time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}-${to} 0-${fr}:${T}:${w} T:${T} ${DM} ${N} $
0 ${rsa} k:${k} y:0:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19391 echo "### Done for ${name}-${v}" ###"
19392 done ; done
19393 #MSE=1.989444e+02(NMSE1.965127e-01) eguti-a
19394 #MSE=2.723947e+02 real26m59.744s
19395 #MSE=3.826324e+02(NMSE3.779556e-01) eguti-i
19396 #MSE=6.730678e+02(NMSE6.648410e-01) eguti-u
19397 #MSE=7.584162e+02(NMSE7.491463e-01) eguti-e
19398
19399 for name in eguti sawa ; do
19400 for v in a i u e o ; do
19401
```

```
19402  rm -rf result-ensrs2ge/tmp/
19403  fr=2000 ts=100 tl=100; frtl=`expr ${#MSE=7.878061e-01(NMSE3.346634e-02)(t:2000-2100) 0-2000:2000-210
0k27N1lmpl:1:1.000000H1-y
19404  fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19405  rsa=rsa-1:0.7:1:20 k=9 N=N:32-32:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ; to=
${frtl};date
19406  time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to}? frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19407  0 ${rsa} k:${k} y:0:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19408  echo "### Done for ${name}-${v} ###
19409  done ; done
19409  ###for y:0:0:1
19410  #MSE=3.450765e+02(NMSE3.408588e-01)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-a
19411  #MSE=7.642637e+01(NMSE2.711515e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-i
19412  #MSE=3.976197e+02(NMSE1.190970e-01)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-u
19413  #MSE=2.554470e+02(NMSE2.067180e-01)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-e
19414  #MSE=3.454342e+00(NMSE1.570977e-03)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-o
19415  #MSE=7.968937e-01(NMSE1.480759e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-a
19416  #MSE=1.357820e+02(NMSE4.428690e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-i
19417  #MSE=1.133720e+02(NMSE4.586266e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-u
19418  #MSE=7.422204e+01(NMSE3.152985e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-e
19419  #MSE=9.626804e+01(NMSE4.275801e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-o
19420  ###for y:0:255:0:1
19421  #MSE=1.797723e+03(NMSE1.775750e+00)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-a
19422  #MSE=7.454610e+01(NMSE2.644805e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-i
19423  #MSE=3.243486e+02(NMSE3.724550e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-u
19424  #MSE=8.219200e+01(NMSE1.651306e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-e
19425  #MSE=6.884851e+00(NMSE2.221767e-03)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  eguti-o
19426  #MSE=6.629766e-01(NMSE1.063552e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-a
19427  #MSE=1.361356e+02(NMSE4.440226e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-i
19428  #MSE=1.205194e+02(NMSE4.875401e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-u
19429  #MSE=7.602032e+01(NMSE3.229376e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-e
19430  #MSE=1.096347e+02(NMSE4.869489e-02)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y  sawa-o
19431  ###for y:0:255:0:1
19432  for name in eguti sawa ; do
19433  for v in a ; do
19434  rm -rf result-ensrs2ge/tmp/
19435  fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19436  rsa=rsa-1:0.7:1:20 k=9 N=N:10-10:1 mp=mp:1:1:1 g=g:5e-3 w=w:0.2 T=100 ; to=$
{frtl};date
19437  time ./tspredv3 ../data/${name}-${v}.dat 0-${fr}:${fr}-${to}? frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19438  0 ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19439  echo "### Done for ${name}-${v} ###
19440  done ; done
19441  #MSE=1.259262e+03(NMSE1.243871e+00)(t:2000-2100) 0-2000:2000-2100k9N10mpl:1:1.000000H1-y  eguti-a
19442
19443  #NG#rm -rf result-ensrs2ge/;
19444  #NG#fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${ts}` ;
19445  #NG#rsa=rsa-1:0.7:1:20 k=9 N=N:32-32:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
to=${frtl};date
19446  ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19447  #NG#time ./tspredv3 ../data/eguti-a.dat 0-${fr}:${fr}-${to}? frtl=`expr ${fr} + ${ts}` ;
19448  #NG##MSE1.797723e+03(NMSE1.775750e+00)(t:2000-2100) 0-2000:2000-2100k9N32mpl:1:1.000000H1-y eguti-a
19449  #NG#
19450  #NG#(2)
19451  #NG#rm -rf result-ensrs2ge/;
19452  #NG#fr=2000 ts=100 tl=100; frtl=`expr ${fr} + ${ts}` ;
19453  #NG#rsa=rsa2:0.7:1:20 k=8 N=N:14-14:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:5e-3 w=w:0.2 T=100 ;
to=${frtl};date
19454  #NG#time ./tspredv3 ../data/sawa-a.dat 0-${fr}:${fr}-${to}? frts=`expr ${fr} + ${ts}` ;
19455  ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19456  #NG##MSE1.775748e-01(NMSE1.351953e-02)(t:2000-2100) 0-2000:2000-2100k9N14mpl:1:1.000000H1-y
19457  #NG#(1) single CAN2(rsa:-1:0.7:1:20) で 小さな ts(=100) で g を求める。
19458  #NG#
19459  #NG#rm -rf result-ensrs2ge/;
19460  #NG#fr=2000 ts=100 tl=200; frtl=`expr ${fr} + ${ts}` ;
19461  #NG#rsa=rsa-1:0.7:1:20 k=8 N=N:40-40:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:3.8e-4 w=w:0.2 T=100
; to=${frtl};date
19462  ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19463  4  #NG##MSE=9.600741e-01(NMSE9.540217e-05)(t:2000-2100)(t:2000-2200) 0-2000-2200k8N40mpl:1:1.000000H1-y g:3.8e-
19464  #NG##MSE=9.642634e-01(NMSE9.581846e-05)(t:2000-2100) 0-2000-2200k8N40mpl:1:1.000000H1-y g:4e-4
19465  #NG##MSE=9.762869e-01(NMSE9.701323e-05)(t:2000-2100) 0-2000-2200k8N40mpl:1:1.000000H1-y g:3.7e-
19466  4  #NG##MSE=9.820758e-01(NMSE9.758847e-05)(t:2000-2100) 0-2000-2200k8N40mpl:1:1.000000H1-y g:3.6e-
19467  #NG##MSE=9.949501e-01(NMSE9.886778e-05)(t:2000-2100) 0-2000-2200k8N40mpl:1:1.000000H1-y g:5e-4
19468  #NG##MSE=1.975883e+00(NMSE1.963427e-04)(t:2000-2100) 0-2000-2200k8N40mpl:1:1.000000H1-y g:3e-4
```

```
19469  4  w:0.3   #NG##MSE=1.958552e+00(NMSE1.946305e-04)(t:2000-2200) 0-2000:2000-2200k8N40mpl:1:1.000000H1-y g:3.8e-
19470  #NG#
19471  #NG#
19472  #NG#(2)
19473  #NG#rm -rf result-ensrs2ge/;
19474  #NG#fr=2000 ts=200 tl=200; frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19475  #NG#rsa=rsa2:0.7:1:20 k=8 N=N:14-14:1 mp=mp:1:1:1 DM=DiffMode:0 H=Hosei:1 g=g:3.8e-4 w=w:0.2 T=100
; to=${frtl};date
19476  #NG#time ./tspredv3 ../data/sawa-a.dat 0-${fr}:${fr}-${to}? frts=`expr ${fr} + ${ts}` ;
19477  ${rsa} k:${k} y:0:255:0:1 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19478  #NG##MSE=3.883643e+02(NMSE1.244399e-01)(t:2000-2200) 0-2000:2000-2200k8N14mpl:1:1.000000H1-y sawa-i
19479  #NG##MSE=3.714972e+02(NMSE1.202741e-01)(t:2000-2200) 0-2000:2000-2200k8N14mpl:1:1.000000H1-y sawa-u
with x:0:0:0:0
19480  #NG#
19481  #NG##MSE=1.985315e+03(NMSE1.963331e+00)(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
???
19482  #NG##MSE=3.461041e+02(NMSE1.306900e-01)(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19483  #NG##MSE=6.825194e+02(NMSE2.041020e-01)(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19484  #NG#
19485  #NG##MSE=3.926423e+02(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y (sawa-i y:14.722500:199.7
77500)g:1.3e-3
19486  #NG##MSE=3.852147e+02(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y (sawa-i y:14.722500:199.7
77500)g:0.4e-3
19487  #NG#y:0:255:0:1 g:0.4e-3
19488  #NG##MSE=6.072109e-01(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y (sawa-a y:74.700000:153.4
25000)
19489  #NG#y:74.700000:153.425000:0:1 g:1.4e-3
19490  #NG##MSE=5.883401e-01(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y (sawa-a y:74.700000:153.4
25000)
19491  #NG#y:0:255:0:4
19492  #NG##MSE=7.965950e-01(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19493  #NG#y:0:0:1 g:1.4e-3
19494  #NG##MSE=1.283745e+00(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19495  #NG#y:0:0:1 g:1.5e-3
19496  #NG##MSE=1.298515e+00(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19497  #NG#y:0:0:1 g:1.3e-3
19498  #NG##MSE=1.397569e+00(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19499  #NG#y:0:0:1
19500  #NG##MSE=1.552791e+00(t:2000-2200) 0-2000-2200k8N13mpl:1:1.000000H1-y
19501  #NG#y:0:250
19502  #NG##MSE=1.457073e+00(t:2000-2200) 0-2000-2200k8N14mpl:1:1.000000H1-y
19503  #NG#
19504  #NG#rm -rf result-ensrs2ge/;fr=2000 ts=200 tl=200; frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${t
s}` ;
19505  #NG#rsa=rsa2:0.7:1:20 k=8 N=N:15-15:1 mp=mp:1:1 DM=DiffMode:0 H=Hosei:1 g=g:1.4e-3 w=w:0.2 T=100
19506  #NG#time ./tspredv3 ../data/sawa-a.dat 0-${fr}:${fr}-${to}:${fr}:${to} T:${T} vt:0.5 vr:10 >/dev/null:date
; to=${frtl};date
19507  ${rsa} k:${k} y:74.700000:153.425000 ${g} ${w} T:${T} vt:0.5 vr:10 >/dev/null:date
19508  #NG##MSE=6.181629e-01(t:2000-2200) 0-2000-2200k8N15mpl:1:1.000000H1-y
19509  #NG##MSE=6.201649e-01(t:2000-2200) 0-2000-2200k8N15mpl:1:1.000000H1-y
19510  #NG##MSE=6.201649e-01(t:2000-2200) 0-2000-2200k8N15mpl:1:1.000000H1-y
19511  #NG#rsa:2:0.7:1:20 k=8 N=N:8-8:1
19512  #NG##MSE=5.650037e+01(t:2000-2200) 0-2000-2200k8N8mpl:1:1.000000H1-y
19513  #NG#rsa:2:0.7:1:20 k=8 N=N:12-12:1
19514  #NG##MSE=3.806061e+00(t:2000-2200) 0-2000-2200k8N12mpl:1:1.000000H1-y
19515  #NG#rsa:2:0.7:1:20 k=8 N=N:17-17:1
19516  #NG##MSE=9.665671e-01(t:2000-2200) 0-2000-2200k8N17mpl:1:1.000000H1-y
19517  #NG#
19518  #NG##MSE=3.434110e+00(t:2000-2200) 0-2000-2200k8N34mpl:1:1.000000H1-y
19519  #NG#y:74.700000:153.425000 rsa:-1:1:1:1
19520  #NG##MSE=1.465435e+00(t:2000-2200) 0-2000-2200k8N34mpl:1:1.000000H1-y
19521  #NG#y:74.700000:153.425000 rsa:-2:1:1:1
19522  #NG##MSE=3.317997e+00(t:2000-2200) 0-2000-2200k8N40mpl:1:1.000000H1-y
19523  #NG#rsa:2:0.7:1:20 k=8 N=N:10-10:1
19524  #NG##MSE=1.029566e+01(t:2000-2200) 0-2000-2200k8N10mpl:1:1.000000H1-y
19525  #NG#
19526  #NG#(2) dy
19527  #NG#fr=2000 ts=200 tl=200; frtl=`expr ${fr} + ${tl}` ;frts=`expr ${fr} + ${ts}` ;
19528  #NG#rsa=rsa-1:1:1:1 k=8 N=N:34-34:1 mp=mp:1:1:1 DM=DiffMode:1 H=Hosei:1 g=g:1.4e-3 w=w:0.2 T=100 ;
to=${frtl};date
19529  #NG#time ./tspredv3 ../data/sawa-a.dat 0-${fr}:${fr}-${to} T:${T} vt:0.5 vr:10 >/dev/null:date
19530  ${rsa} k:${k} y:0:0 x:0:0 r:1:10 ${g} ${w} T:${T} MSEdy:6.996774e+00(t:2000-2200) 0-2000-2200k8N34mpl:1:1.000000H1-dy
19531  #NG#rsa:-1:1:1:1 k=8 N=N:34-34:1 y:-29.156250:21.381250
19532  #NG#rsa:-2:1:1:1 k=8 N=N:34-34:1 y:-29.156250:21.381250 x:0:0 r:1:10
19533  #NG#rsa:-1:1:1:1 k=8 N=N:34-34:1 y:-29.156250:21.381250 x:0:0 r:1:10
19534  #NG#rsa:-2:1:1:1 k=8 N=N:34-34:1 y:1.730549e+00 MSEdy:1.730549e+00(t:2000-2200) 0-2000-2200k8N34mpl:1:1.000000H1-dy
19535  #NG#rsa:-1:1:1:1 k=8 N=N:34-34:1 y:-29.156250:21.381250 x:0:0 r:1:10
19536  #NG##MSE=1.861181e+01 MSEdy:8.641334e+00(t:2000-2200) 0-2000-2200k8N34mpl:1:1.000000H1-dy
```

```
19537
19538  060120pm
19539  ###do from here for ensemble
19540  for dofromhere in 1 ; do
19541  dname=fuchi-a ;K=9 ;T=100 ;g=5e-3
19542  dn_timeseries=./data/${dname}.dat;
19543  dn_regression=./tmp/${dname}-fa.dat
19544  N1=32 ;N2=60 ;ens=  #>>MSE---;5.078947e+02 NMSE---;5.022706e-01
19545  N=${N1}
19546  t0=3000
19547  t1=200
19548  t4=1000
19549  T0=${t0}
19550  T1=`expr ${t0} + ${t1}`
19551  TOFFS=t4
19552  while [ ${N} -le ${N2} ] ; do
19553  file=tmp/bestnspN${N}.net
19554  predfile=tmp/predictN${N}.dat
19555  if [ -e ${file} ] ; then
19556  echo $file exists. Omit calculation.
19557  else
19558  ##
19559  cat > param.dat << EOF
19560  #0:timeseries,1:chaos prepare_data() in my_function.c
19561  9 0    #channels
19562  ${dn_timeseries}
19563  ${T0} ${T1} ${TOFFS} #Ttrain,Ttotal: points in time of training and total data
19564  0 0 0        #y0min y0max y1min y1max for normalization
19565  in           #
19566  ${N}         #n_cells storing vectors
19567  20           #n_compare
19568  0.5 3        #v_thresh v_min
19569  10           #v_ratio
19570  0.2          #width  window width
19571  ex           #execute
19572  1 5e-3 0.7   #i=0:online,i=1:batch, gamma0, entropy_thresh
19573  100          #iterations to execute
19574  10           #display
19575  quit
19576  EOF
19577  echo "Executing can2 for N=${N}"
19578  can2 <param.dat > /dev/null
19579  cp bestnsp.net ${file}
19580  cp predict.dat ${predfile}
19581  ###
19582  fi
19583  export ens=$ens" "${file}
19584  N=`expr ${N} + 1`
19585  done
19586  #########
19587  cat > param.dat << EOF
19588  0      #0:timeseries,1:chaos prepare_data() in my_function.c
19589  9 0    #channels
19590  ${dn_timeseries}
19591  ${T0} ${T1} ${TOFFS} #Ttrain,Ttotal: points in time of training and total data
19592  0 0 0        #y0min y0max y1min y1max for normalization
19593  nls
19594  ${ens}
19595  mspe
19596  qu
19597  EOF
19598  ./can2 < param.dat
19599  done
19600  ### do to here for ensemble
19601  #########
19602  #
19603  dname=fuchi-a
19604  dn_timeseries=./data/${dname}.dat
19605  dn_regression=./tmp/${dname}-rg.dat
19606  cat >param.dat << EOF  ###save parameters
19607  0      #0:timeseries,1:chaos prepare_data() in my_function.c
19608  9 0    #channels
19609  ${dn_timeseries} #training file
19610  2000 2200 1000    #Ttrain,Ttotal: points in time of training and total data
19611  0 0 0        #y0min y0max y1min y1max for normalization
19612  qu
19613  EOF
19614  #########
19615  ./can2 <param.dat
19616  echo cp tmp/train+test.dat ${dn_regression} ##save the file for regression(function approximation)
19617  cp tmp/train+test.dat ${dn_regression} ###save the file for regression(function approximation)
19618  ###(3) search optimal N by ens2ge for chekking generalization ability
```

```
19619  rm -rf result-ensrs2ge/
19620  ./ens2ge ${dn_regression} ${dn_regression} N:20-40:1 ib:0:0:0:1 M:1-1:1 k:${K} g:${g} T:${T} >/dev/n
ull #最適ユニット数探索
19621  #40: 3(N:40-42) Lhat=1.481e+04 Lvarmin 2=1.157e-25 Lvar0=1.157e-25 Lval=5.680382e+05*N:41-41
19622  #39: 7(N:39-45) Lhat=2.567e+04 Lvarmin 4=4.720e-26 Lvar0=4.720e-26 Lval=5.620540e+05*N:42-42
19623  #25: 7(N:25-31) Lhat=2.210e+04 Lvarmin2=5.672e-26 Lvar0=5.672e-26 Lval=7.162319e+05*N:28-28
19624
19625  rm -rf tmp
19626
19627  export T=100 N1=32 method=poles4 t0=1000 t1=2000 t2=1000 t3=2000 t4=200; export N2=${N1} DISP=2 #
19628  for testname in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19629  trainname=${testname}
19630  t2=1000
19631  for N1 in 30 35 40 45 50 55 ; do
19632  N2=`expr ${N1} + 5`
19633  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}"
:${t2}:${t3}:${t4} DISP:${DISP}"
19634  vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}
:${t3}:${t4} DISP:${DISP} >/dev/null
19635  done
19636  done
19637  ##
19638
19639  vowelrecog te:fuchi  tr:fuchi k:9 N:30-30 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2
19640  >>MSE---;3.082661e+07 NMSE---;1.120039e+00
19641  >>MSE---;4.987014e+06 NMSE---;3.936081e-01
19642  >>MSE---;4.962062e+07 NMSE---;5.153329e+00
19643  >>MSE---;4.643559e+06 NMSE---;5.533977e-01
19644  >>MSE---;1.861256e+06 NMSE---;3.957271e-02
19645
19646
19647
19648
19649
19650  060120
19651  DISP=0 for no display
19652  DISP=1 for poles display
19653  DISP=2 for msp (multi-step-prediction) display
19654  DISP==2 for msp (multi-step-prediction) display
19655  (1) 根立さんにより、新しいvデータは10秒程度、データ数は45万位あるので、
サンプリング周波数は約45kHz.8kHz程度になるようデータを間引きしてみることにした。
19656  ###
19657  export PWD0=${PWD}
19658  cd ../data
19659  for f in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19660  for vowel in a i u e o ; do
19661  echo "${PWD0}/mabiki ${f}-${vowel}.txt 6 0 > ${f}-${vowel}.dat"
19662  ${PWD0}/mabiki ${f}-${vowel}.txt 6 0 > ${f}-${vowel}.dat
19663  done
19664  done
19665  cd ${PWD0}
19666  ####
19667  ###   /home/kuro/sotu/2006/can2b/mabiki fuchi-a.txt 6 0 > fuchi-a.dat
19668  range of x0:-17422.000000:17186.000000
19669  diml num_data=72796 (<436774original)
19670  /home/kuro/sotu/2006/can2b/mabiki fuchi-i.txt 6 0 > fuchi-i.dat
19671  range of x0:-6423.000000:6419.000000
19672  diml num_data=76706 (<460236original)
19673  /home/kuro/sotu/2006/can2b/mabiki fuchi-u.txt 6 0 > fuchi-u.dat
19674  range of x0:-32768.000000:32767.000000
19675  diml num_data=82661 (<495963original)
19676  /home/kuro/sotu/2006/can2b/mabiki fuchi-e.txt 6 0 > fuchi-e.dat
19677  range of x0:-8264.000000:8186.000000
19678  diml num_data=76029 (<456172original)
19679  /home/kuro/sotu/2006/can2b/mabiki fuchi-o.txt 6 0 > fuchi-o.dat
19680  range of x0:-18965.000000:16409.000000
19681  diml num_data=76474 (<458844original)
19682  /home/kuro/sotu/2006/can2b/mabiki kitayama-a.txt 6 0 > kitayama-a.dat
19683  range of x0:-7408.000000:6282.000000
19684  diml num_data=81869 (<491211original)
19685  /home/kuro/sotu/2006/can2b/mabiki kitayama-i.txt 6 0 > kitayama-i.dat
19686  range of x0:-3896.000000:3505.000000
19687  diml num_data=1061170 (<637016original)
19688  /home/kuro/sotu/2006/can2b/mabiki kitayama-u.txt 6 0 > kitayama-u.dat
19689  range of x0:-32768.000000:32767.000000
19690  diml num_data=79157 (<474939original)
19691  /home/kuro/sotu/2006/can2b/mabiki kitayama-e.txt 6 0 > kitayama-e.dat
19692  range of x0:-5777.000000:6491.000000
19693  diml num_data=72445 (<434665original)
19694  /home/kuro/sotu/2006/can2b/mabiki kitayama-o.txt 6 0 > kitayama-o.dat
19695  range of x0:-13610.000000:14907.000000
19696  diml num_data=67461 (<404766original)
19697  /home/kuro/sotu/2006/can2b/mabiki nechi-a.txt 6 0 > nechi-a.dat
```

```
19698 range of x0:-8480.000000:9992.000000)
19699 diml num_data=71651 (<429904original)
19700 /home/kuro/sotu/2006/can2b/mabiki nechi-i.txt 6 0 > nechi-i.dat
19701 range of x0:-5116.000000:6954.000000)
19702 diml num_data=75936 (<455616original)
19703 /home/kuro/sotu/2006/can2b/mabiki nechi-u.txt 6 0 > nechi-u.dat
19704 range of x0:-10559.000000:12435.000000)
19705 diml num_data=74167 (<444997original)
19706 /home/kuro/sotu/2006/can2b/mabiki nechi-e.txt 6 0 > nechi-e.dat
19707 range of x0:-5246.000000:6804.000000)
19708 diml num_data=74580 (<447480original)
19709 /home/kuro/sotu/2006/can2b/mabiki nechi-o.txt 6 0 > nechi-o.dat
19710 range of x0:-16757.000000:17723.000000)
19711 diml num_data=74844 (<449061original)
19712 /home/kuro/sotu/2006/can2b/mabiki ryotarou-a.txt 6 0 > ryotarou-a.dat
19713 range of x0:-7196.000000:6582.000000)
19714 diml num_data=71916 (<431495original)
19715 /home/kuro/sotu/2006/can2b/mabiki ryotarou-i.txt 6 0 > ryotarou-i.dat
19716 range of x0:-2992.000000:3348.000000)
19717 diml num_data=74241 (<445446original)
19718 /home/kuro/sotu/2006/can2b/mabiki ryotarou-u.txt 6 0 > ryotarou-u.dat
19719 range of x0:-32767.000000:32767.000000)
19720 diml num_data=71699 (<430191original)
19721 /home/kuro/sotu/2006/can2b/mabiki ryotarou-e.txt 6 0 > ryotarou-e.dat
19722 range of x0:-4296.000000:6738.000000)
19723 diml num_data=76275 (<457650original)
19724 /home/kuro/sotu/2006/can2b/mabiki ryotarou-o.txt 6 0 > ryotarou-o.dat
19725 range of x0:-32767.000000:29810.000000)
19726 diml num_data=71360 (<428157original)
19727 /home/kuro/sotu/2006/can2b/mabiki shingo-a.txt 6 0 > shingo-a.dat
19728 range of x0:-8642.000000:6923.000000)
19729 diml num_data=75614 (<453682original)
19730 /home/kuro/sotu/2006/can2b/mabiki shingo-i.txt 6 0 > shingo-i.dat
19731 range of x0:-8555.000000:14977.000000)
19732 diml num_data=74599 (<447593original)
19733 /home/kuro/sotu/2006/can2b/mabiki shingo-u.txt 6 0 > shingo-u.dat
19734 range of x0:-17573.000000:19426.000000)
19735 diml num_data=70780 (<42467original)
19736 /home/kuro/sotu/2006/can2b/mabiki shingo-e.txt 6 0 > shingo-e.dat
19737 range of x0:-17915.000000:19351.000000)
19738 diml num_data=72546 (<435276original)
19739 /home/kuro/sotu/2006/can2b/mabiki shingo-o.txt 6 0 > shingo-o.dat
19740 range of x0:-19099.000000:18581.000000)
19741 diml num_data=72716 (<436293original)
19742 /home/kuro/sotu/2006/can2b/mabiki takemura-a.txt 6 0 > takemura-a.dat
19743 range of x0:-11997.000000:14362.000000)
19744 diml num_data=71893 (<431353original)
19745 /home/kuro/sotu/2006/can2b/mabiki takemura-i.txt 6 0 > takemura-i.dat
19746 range of x0:-15871.000000:14402.000000)
19747 diml num_data=71554 (<429323original)
19748 /home/kuro/sotu/2006/can2b/mabiki takemura-u.txt 6 0 > takemura-u.dat
19749 range of x0:-32767.000000:32767.000000)
19750 diml num_data=72400 (<434398original)
19751 /home/kuro/sotu/2006/can2b/mabiki takemura-e.txt 6 0 > takemura-e.dat
19752 range of x0:-5823.000000:7472.000000)
19753 diml num_data=75369 (<452210original)
19754 /home/kuro/sotu/2006/can2b/mabiki takemura-o.txt 6 0 > takemura-o.dat
19755 range of x0:-25010.000000:19162.000000)
19756 diml num_data=3923 (<43533original)
19757 /home/kuro/sotu/2006/can2b/mabiki tomisaki-a.txt 6 0 > tomisaki-a.dat
19758 range of x0:-4780.000000:4417.000000)
19759 diml num_data=76368 (<458205original)
19760 /home/kuro/sotu/2006/can2b/mabiki tomisaki-i.txt 6 0 > tomisaki-i.dat
19761 range of x0:-4202.000000:5107.000000)
19762 diml num_data=71554 (<490716original)
19763 /home/kuro/sotu/2006/can2b/mabiki tomisaki-u.txt 6 0 > tomisaki-u.dat
19764 range of x0:-15781.000000:16539.000000)
19765 diml num_data=72400 (<434398original)
19766 /home/kuro/sotu/2006/can2b/mabiki tomisaki-e.txt 6 0 > tomisaki-e.dat
19767 range of x0:-8818.000000:12976.000000)
19768 diml num_data=75369 (<452210original)
19769 /home/kuro/sotu/2006/can2b/mabiki tomisaki-o.txt 6 0 > tomisaki-o.dat
19770 range of x0:-14451.000000:12091.000000)
19771 diml num_data=74675 (<448045original)
19772 /home/kuro/sotu/2006/can2b/mabiki yusuke-a.txt 6 0 > yusuke-a.dat
19773 range of x0:-6712.000000:5109.000000)
19774 diml num_data=75183 (<451093original)
19775 /home/kuro/sotu/2006/can2b/mabiki yusuke-i.txt 6 0 > yusuke-i.dat
19776 range of x0:-6633.000000:7812.000000)
19777 diml num_data=81786 (<490716original)
19778 /home/kuro/sotu/2006/can2b/mabiki yusuke-u.txt 6 0 > yusuke-u.dat
19779 range of x0:-31624.000000:32767.000000)

19780 diml num_data=77462 (<464769original)
19781 /home/kuro/sotu/2006/can2b/mabiki yusuke-e.txt 6 0 > yusuke-e.dat
19782 range of x0:-17334.000000:19034.000000)
19783 diml num_data=78648 (<471888original)
19784 /home/kuro/sotu/2006/can2b/mabiki yusuke-o.txt 6 0 > yusuke-o.dat
19785 range of x0:-32767.000000:32767.000000)
19786 diml num_data=75089 (<450531original)
19787
19788 (2)学習能力(訓練＝テスト)のチェック
19789 ###
19790 rm -rf tmp
19791 export T=100 N1=32 method=poles4 t0=1000 t1=2000 t2=1000 t3=2000 t4=200; export N2=${N1} DISP=2 #
19792 for testname in fuchi  kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19793 trainname=${testname}
19794 for t2 in 1000 ; do
19795 echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}
:${t2}:${t3}:${t4} DISP:${DISP}"
19796 vowelrecog te:${testname}   tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}
:${t3}:${t4} DISP:${DISP} >/dev/null
19797 done
19798 done
19799 vowelrecog te:fuchi  tr:fuchi k:9 N:40-40 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2
19800 >>MSE:---2.888884e+07 NMSE:---1.049632e+00
19801
19802
19803
19804 ##
19805 vowelrecog te:fuchi  tr:fuchi k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19806 >>MSE:---3.685650e+07 NMSE:---1.339126e+00
19807 >>MSE:---4.119510e+06 NMSE:---8.160347e-01
19808 >>MSE:---6.645106e+07 NMSE:---1.544517e+00
19809 >>MSE:---5.021356e+06 NMSE:---5.98421 8e-01
19810 >>MSE:---2.692287e+06 NMSE:---5.724151e-02
19811 #te:fuchi-aiueo-t1000+2000 are recognized as tr:fuchi-aiueo-t1000+2000  (5/5) via m:poles4N32-32.#
19812 vowelrecog te:kitayama tr:kitayama k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19813 >>MSE:---1.582444e+06 NMSE:---6.660982e-01
19814 >>MSE:---4.642344e+06 NMSE:---8.743389e-01
19815 >>MSE:---2.811613e+06 NMSE:---7.309868e-01
19816 >>MSE:---1.798817e+06 NMSE:---4.892913e-01
19817 >>MSE:---1.024068e+07 NMSE:---3.557695e-01
19818 #te:kitayama-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000  (5/5) via m:poles4N32-3
19819 2.#
19820 vowelrecog te:nechi  tr:nechi k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19821 >>MSE:---2.127896e+06 NMSE:---4.604267e-01
19822 >>MSE:---1.585350e+05 NMSE:---2.028322e-01
19823 >>MSE:---1.012822e+06 NMSE:---1.468301e-01
19824 >>MSE:---3.331351e+06 NMSE:---7.550333e-01
19825 >>MSE:---1.918784e+06 NMSE:---1.606191e-01
19826 #te:nechi-aiueo-t1000+2000 are recognized as tr:nechi-aiueo-t1000+2000  (5/5) via m:poles4N32-32.#
19827 vowelrecog te:ryotarou  tr:ryotarou k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19828 >>MSE:---3.859211e+06 NMSE:---7.231125e-01
19829 >>MSE:---8.560779e+05 NMSE:---8.719821e-01
19830 >>MSE:---2.665981e+06 NMSE:---7.695067e-01
19831 >>MSE:---2.352337e+05 NMSE:---7.840783e-01
19832 >>MSE:---8.377783e+07 NMSE:---9.396198e-01
19833 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:ryotarou-aiueo-t1000+2000  (5/5) via m:poles4N32-3
19834 2.#
19835 vowelrecog te:shingo   tr:shingo k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19836 >>MSE:---4.005218e+06 NMSE:---1.397158e+00
19837 >>MSE:---8.279749e+06 NMSE:---6.503625e-01
19838 >>MSE:---2.162053e+07 NMSE:---7.928727e-01
19839 >>MSE:---2.234932e+07 NMSE:---4.479932e-01
19840 >>MSE:---1.921563e+07 NMSE:---6.947639e-01
19841 #te:shingo-aiueo-t1000+2000 are recognized as tr:shingo-aiueo-t1000+2000  (5/5) via m:poles4N32-32.#
19842 vowelrecog te:takemura  tr:takemura k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19843 >>MSE:---4.614058e+05 NMSE:---3.526605e-02
19844 >>MSE:---4.020339e+06 NMSE:---3.918889e-01
19845 >>MSE:---1.257170e+08 NMSE:---1.015650e+00
19846 >>MSE:---2.748599e+05 NMSE:---8.093864e-02
19847 >>MSE:---4.170379e+07 NMSE:---1.285395e+00
19848 #te:takemura-aiueo-t1000+2000 are recognized as tr:takemura-aiueo-t1000+2000  (5/5) via m:poles4N32-3
19849 2.#
19850 vowelrecog te:tomisaki   tr:tomisaki k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
19851 >>MSE:---5.530445e+05 NMSE:---3.502536e-01
19852 >>MSE:---6.373441e+05 NMSE:---1.322781e+00
19853 >>MSE:---2.379518e+05 NMSE:---9.559352e-02
19854 >>MSE:---1.171460e+07 NMSE:---1.396621e+00
19855 >>MSE:---1.579402e+07 NMSE:---1.162552e+00
      #te:tomisaki-aiueo-t1000+2000 are recognized as tr:tomisaki-aiueo-t1000+2000  (5/5) via m:poles4N32-3
      2.#
      vowelrecog te:yusuke  tr:yusuke k:9 N:32-32 m:poles4 T:100 tt:1000:2000:1000:2000:200 DISP:2#
```

```
19856 >>MSE---:2.698399e+06 NMSE---:1.215123e+00
19857 >>MSE---:1.005912e+06 NMSE---:7.667597e-01
19858 >>MSE---:5.862346e+07 NMSE---:7.570561e-01
19859 >>MSE---:2.644290e+06 NMSE---:1.200502e-01
19860 >>MSE---:1.257655e+08 NMSE---:4.598174e-01
19861 #te:yusuke-aiueo-t1000+2000 are recognized as tr:yusuke-aiueo-t1000+2000 (5/5) via m:poles4N32-32.#
19862
19863 (3)
19864 export T=100 N1=32 method=poles4 t0=1000 t1=2000 t2=1000 t3=2000 t4=200: export N2=${N1} DISP=0
19865 rm -rf tmp
19866 for testname in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19867 trainname=kitayama
19868 for t2 in 1000 ; do
19869 echo "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}:${t3}:${t4} DISP:${DISP}"
19870 vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}:${t3}:${t4} DISP:${DISP} >/dev/null
19871 done
19872 done
19873
19874 #te:fuchi-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N25-35.#
19875 #te:kitayama-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N25-3
5.#
19876 #te:nechi-aiueo-t1000+2000 are recognized as tr:kitayama-iiuoo-t1000+2000 (3/5) via m:poles4N25-35.#
19877 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiuio-t1000+2000 (4/5) via m:poles4N25-3
5.#
19878 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N25-35.
19879 #te:takemura-aiueo-t1000+2000 are recognized as tr:kitayama-aioio-t1000+2000 (3/5) via m:poles4N25-3
5.#
19880 #te:tomisaki-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N25-3
5.#
19881 #te:tomisaki-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N25-3
5.#
19882
19883 #te:fuchi-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-32.#
19884 #te:kitayama-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-3
2.#
19885 #te:nechi-aiueo-t1000+2000 are recognized as tr:kitayama-uiuoo-t1000+2000 (3/5) via m:poles4N32-32.#
19886 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiuio-t1000+2000 (4/5) via m:poles4N32-3
2.#
19887 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-32.
19888 #te:takemura-aiueo-t1000+2000 are recognized as tr:kitayama-aioio-t1000+2000 (3/5) via m:poles4N32-3
2.#
19889 #te:tomisaki-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-3
2.#
19890 #te:yusuke-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-32.
#
19891
19892
19893 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-uiuoo-t1000+2000 (3/5) via m:poles4N32-32.#
19894 #te:fuchi-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-32.#
19895 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiuio-t1000+2000 (4/5) via m:poles4N32-3
2.#
19896 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N32-32.
#
19897 #te:nechi-aiueo-t1000+2000 are recognized as tr:kitayama-uouoa-t1000+2000 (1/5) via m:poles4N1-1.#
19898 #te:nechi-aiueo-t1000+2000 are recognized as tr:kitayama-oiuie-t1000+2000 (2/5) via m:poles4N1-1.#
19899 #te:fuchi-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
19900 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiaio-t1000+2000 (3/5) via m:poles4N1-1.
#
19901 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-oiuio-t1000+2000 (3/5) via m:poles4N1-1.#
19902 #te:nechi-aiueo-t1000+2000 are recognized as tr:kitayama-uiaeo-t1000+2000 (3/5) via m:directN1-1.#
19903 #te:fuchi-aiueo-t1000+2000 are recognized as tr:kitayama-oioeo-t1000+2000 (3/5) via m:directN1-1.#
19904 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiiio-t1000+2000 (3/5) via m:directN1-1.
#
19905 #te:ryotarou-aiueo-t1000+2000 are recognized as tr:kitayama-aiueo-t1000+2000 (4/5) via m:directN1-1.
#
19906 #te:shingo-aiueo-t1000+2000 are recognized as tr:kitayama-uiaeo-t1000+2000 (3/5) via m:directN1-1.#
19907
19908 #te:nechi-aiueo-t1000+200 are recognized as tr:kitayama-uiaeo-t1000+2000 (3/5) via m:directN1-1.#
19909 #te:fuchi-aiueo-t1000+200 are recognized as tr:kitayama-oioeo-t1000+2000 (3/5) via m:directN1-1.#
19910 #te:ryotarou-aiueo-t1000+200 are recognized as tr:kitayama-aiiio-t1000+2000 (3/5) via m:directN1-1.#
19911 #te:shingo-aiueo-t1000+200 are recognized as tr:kitayama-aiueo-t1000+2000 (4/5) via m:directN1-1.#
19912
19913
19914 export T=100 N1=32 method=poles4 t0=1000 t1=2000 t2=1000 t3=2000 t4=200: export N2=${N1} DISP=0
19915 rm -rf tmp
19916 for testname in kitayama ; do
19917 trainname=nechi
19918 for t2 in 1000 ; do
19919 echo "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}
```

```
19920 :${t2}:${t3}:${t4} DISP:${DISP}"
19920 vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}
19921 :${t3}:${t4} DISP:${DISP} >/dev/null
19921 done
19922 done
19923
19924 #te:kitayama-aiueo-t1000+2000 are recognized as tr:nechi-oiueo-t1000+2000 (4/5) via m:poles4N32-32. #
19925
19926 (1)
19927 060116
19928 (1)
19929 DISP=1 for poles display
19930 DISP=2 for msp (multi-step-prediction) display
19931 for f in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19932 for vowel in a i u e o ; do
19933 echo "mv ${f}-${vowel}.txt ${f}-${vowel}.dat"
19934 mv ${f}-${vowel}.txt ${f}-${vowel}.dat
19935 done
19936 done
19937
19938 (2) 学習能力(訓練=テスト)のチェック
19939 DISP=2 #for display msp (multi-step prediction)
19940 export T=100 N1=32 method=poles4 t0=1000 t1=2000 t2=1000 t3=2000 t4=200; export N2=${N1} DISP=2#
19941 rm -rf tmp
19942 for testname in fuchi   kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
19943 trainname=${testname}
19944 for t2 in 1000 ; do
19945 echo "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}
19946 :${t2}:${t3}:${t4} DISP:${DISP}"
19946 vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}:${t2}
19947 :${t3}:${t4} DISP:${DISP} >/dev/null
19947 done
19948 done
19949
19950
19951 #Hen futi-u e o
19952 #########
19953 dname=fuchi-e
19954 dn_timeseries=./data/${dname}.dat
19955 dn_regression=./tmp/${dname}-rg.dat
19956
19957 cat >param.dat << EOF ##save parameters
19958 0        #0:timeseries,1:chaos prepare_data() in my_function.c
19959 9 0      #channels
19960 ${dn_timeseries} #training file
19961 2000 2200 1000        #Ttrain,Ttotal: points in time of training and total data
19962 0 0 0 0        #y0min y0max y1min y1max for normalization
19963 qu
19964 EOF
19965 #########
19966 ./can2 <param.dat
19967 echo cp tmp/train+test.dat ${dn_regression}  ##save the file for regression(function approximation)
19968 cp tmp/train+test.dat ${dn_regression}  ###save the file for regression(function approximation)
19969 ##(3) search optimal N by ens2ge for chekking generalization ability
19970 rm -rf result-ensrs2ge/
19971 ../ens2ge ${dn_regression} ${dn_regression} N:30-60:1 ib:0:0:1 M:1-1:1 k:${K} g:${g} T:${T} >/dev/n
ull #最適ユニット数探索
19972 #58: 3(N:58-60) Lhat=4.486e+02 Lvarmin 2=1.719e-26 Lvar0=1.719e-26 Lval=1.225283e+04**N:59-59
19973 ../ens2ge ${dn_regression} ${dn_regression} N:30-60:1 iB:0:0:03 M:1-1:1 k:${g} T:${g} >/dev/n
ull #最適ユニット数探索
19974 #47: 7(N:47-53) Lhat=4.370e+02 Lvarmin 4=9.063e-27 Lvar0=9.063e-27 Lval=1.260314e+04**N:50-50
19975 ../ens2ge ${dn_regression} ${dn_regression} N:30-60:1 M:1-1:1 k:${K} g:${g} T:${T} >/dev/n
ull #最適ユニット数探索
19976 #51:11(N:51-61) Lhat=5.049e+02 Lvarmin 2=2.047e-26 Lvar0=2.047e-26 Lval=1.239715e+04**N:56-56
19977 ../ens2ge ${dn_regression} ${dn_regression} N:30-60:1 iB:0:0:05 M:1-5:1 k:${K} g:${g} T:${T} >/dev/n
最適ユニット数探索
19978 #30:15(N:30-44) Lhat=5.220e+01 Lvarmin103=1.750e+02 Lvar0=1.750e+02 Lval=1.254688e+04**N:35-39
19979
19980 can2        #0:timeseries,1:function approximation in my_function.c
19981 9 0      #channels
19982 9 0
19983 2000 2200 1000        ../data/fuchi-o.dat #training file
19984 -20000 20000 0 1        #Ttrain,Ttotal: points in time of training and total data
19985 in                #y0min y0max y1min y1max for normalization
19986 60       #n_units
19987 6        #n_compare
19988 0.5 3 0  #v_thresh vmin vmin2
19989 5        #v_ratio
19990 0.2 5e-3 0.7  #window width
19991 ex       #<0:online,1:batch>, <gamma0>, <entropy_thresh>
19992 1 5e-3 0.7
19993      1 5e-3 0.7   #<0:online,1:batch>, <gamma0>, <entropy_thresh>
```

```
19994  100      #iterations, rot_x, rot_z
19995  100 50 350   #iterations, rot_x, rot_z
19996  nl
19997  bestmsp.net
19998  msp
19999
20000  #################################Do below.
20001  ################################Do below.
20002  export dname=fuchi -e K=9 T=100 g=5e-3
20003  export dn_timeseries=../data/${dname}.dat dn_regression=./tmp/${dname}-fa.dat
20004  export tl=3000 t2=3600 to=1000 method=mspE
20005  export tl=3000 t2=3600 to=1000 method=mspe
20006  export Nl=35 N2=39 ens= #
20007  cat >param.dat << EOF  #save parameters
20008  0    #0:timeseries,l:chaos prepare_data() in my_function.c
20009  ${K} 0   #channels
20010  ${dn_timeseries} #training file
20011  ${t1} ${t2}       #Ttrain,Ttotal: points in time of training and total data
20012  0 0 0 0    #y0min y0max ylmin ylmax for normalization
20013  qu
20014  EOF
20015  ##
20016  ./can2 <param.dat >/dev/null
20017  cp tmp/train+test.dat ${dn_regression}
20018  ###Nlから N2まで に対する can2の 実行
20019  export Nl=35 N2=39
20020  export N=${N1}
20021  while [ ${N} -le ${N2} ] ; do
20022  file=tmp/bestmspN${N}.net
20023  predfile=tmp/predictN${N}.dat
20024  if [ -e ${file} ] ; then
20025  echo $file exists. Omit calculation.
20026  else
20027  ##
20028  cat > param.dat << EOF
20029  0    #0:timeseries,l:chaos prepare_data() in my_function.c
20030  9 0    #channels
20031  ${dn_timeseries}
20032  ${t1} ${t2}       #Ttrain,Ttotal: points in time of training and total data
20033  0 0 0 0    #y0min y0max ylmin ylmax for normalization
20034  in    #n_cells storing vectors
20035  ${N}     #n_compare
20036  20    #v_thresh v_min
20037  0.5 3   #v_thresh v_min
20038  10   #width  window width
20039  0.2   #v_ratio
20040  ex   #execute
20041  1 5e-3 0.7  #l=0:online,i=l:batch, gamma0, entropy_thresh
20042  100   #iterations to execute
20043  10   #display
20044  quit   #display
20045  EOF
20046  echo "Executing can2 for N=${N}"
20047  can2 <param.dat > /dev/null
20048  cp bestmsp.net ${file}
20049  cp predict.dat ${predfile}
20050  ##
20051  fi
20052  export ens=$ens" "${file}
20053  N=`expr ${N} + 1`
20054  done
20055  ######アンサンブルの実行
20056  cat > param.dat << EOF
20057  0    #0:timeseries,l:chaos prepare_data() in my_function.c
20058  9 0  #channels
20059  ${dn_timeseries}
20060  ${t1} ${t2}       #Ttrain,Ttotal: points in time of training and total data
20061  0 0 0 0    #y0min y0max ylmin ylmax for normalization
20062  nls
20063  ${ens}
20064  ${method}
20065  qu
20066  EOF
20067  ./can2 < param.dat
20068  ###Do to here.
20069  ####################################
20070  ####################
20071  #############################
20072  (3)export T=100 Nl=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1} #
20073  for testname in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
20074  for testname in fuchi kitayama nechi ryotarou shingo takemura tomisaki yusuke ; do
20075  trainname=${testname}
```

```
20076  for t2 in 1000 ; do
20077  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
:${t2}:${t3} DISP:0"
20078  vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}:${t2}
:${t3}  DISP:0 >/dev/null
20079  done
20080  done
20081
20082  (3)
20083  export T=100 Nl=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000; export N2=${N1} #
20084  for testname in fuchi ; do
20085  trainname=kitayama:nechi:ryotarou:shingo:takemura:tomisaki:yusuke
20086  for t2 in 1000 ; do
20087  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
:${t2}:${t3} DISP:0"
20088  vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}:${t2}
:${t3}  DISP:0 >/dev/null
20089  done
20090  done
20091
20092  ##
20093  ##
20094  export T=100 Nl=1 method=poles4 t0=1000 t1=4000 t2=1000 t3=4000; export N2=${N1} #
20095  for testname in fuchi ; do
20096  trainname=eguti
20097  for t2 in 1000 5000 ; do
20098  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
:${t2}:${t3} DISP:0"
20099  vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}:${t2}
:${t3}  DISP:0 >/dev/null
20100  done
20101  done
20102
20103
20104
20105  060115
20106  #different options for more convenient
20107  #    tt:<t0>:<t1>:<t2>:<t3> : [<t0>,<t0>+<t1>] for training, [<t2>,<t2>+<t3>] for test
20108  # m:poles4  distance of poles
20109  # m:poles5  distance of shrinked poles
20110  # m:M4     distance of Associative Matrices
20111  # m:direct   prediction error
20112  (1) norm_poles.cで、半径が rj>1.0 || rj<0.0 の極は評価しないようにした。
20113  export T=100 Nl=1 method=poles4 t0=1000 t2=1000 t3=4000; export N2=${N1} #
20114  for testname in sawa eguti ; do
20115  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20116  for t2 in 1000 2000 3000 4000 5000 6000 7000 8000 ; do
20117  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
:${t2}:${t3} DISP:0"
20118  vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}:${t2}
:${t3}  DISP:0 >/dev/null
20119  done
20120  done
20121
20122
20123  060112pm
20124  (1) norm_poles.cで、半径が rj>1.0 || rj<0.35 の極は評価しないようにした。
20125  (2) 200ms (t1=t2=1600)
20126  export T=100 Nl=1 method=poles4 t0=1000 t1=4000 t2=1000 t3=4000; export N2=${N1} #
20127  for testname in sawa eguti ; do
20128  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20129  for t2 in 1000 2000 3000 4000 5000 6000 7000 8000 ; do
20130  echo "vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
:${t2}:${t3}"
20131  echo n | vowelrecog te:${testname}  tr:${trainname} k:9 N:${N1}-${N2} m:${method}  T:${T} tt:${t0}:${t1}
t1}:${t2};${t3}>/dev/null
20132  done
20133  done
20134  ### recognition using prediction error with N=1
20135  #te:sawa-aiueo-t1000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#soso?
20136  #te:sawa-aiueo-t2000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20137  #te:sawa-aiueo-t3000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20138  #te:sawa-aiueo-t4000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20139  #te:sawa-aiueo-t5000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20140  #te:sawa-aiueo-t6000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20141  #te:sawa-aiueo-t7000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20142  #te:sawa-aiueo-t8000-1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:directNl-1.#
20143  #te:eguti-aiueo-t1000+1000 are recognized as tr:sawa-uiueo-t1000+1000 (4/5) via m:directNl-1.#
20144  #te:eguti-aiueo-t2000+1000 are recognized as tr:sawa-uiueo-t1000+1000 (4/5) via m:directNl-1.#
20145  #te:eguti-aiueo-t3000+1000 are recognized as tr:sawa-uiueo-t1000+1000 (4/5) via m:directNl-1.#
```

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20146  #te:eguti-aiueo-t4000+1000  are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:directN1-1. #
20147  #te:eguti-aiueo-t5000+1000  are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:directN1-1. #
20148  #te:eguti-aiueo-t6000+1000  are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:directN1-1. #
20149  #te:eguti-aiueo-t7000+1000  are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:directN1-1. #
20150  #te:eguti-aiueo-t8000+1000  are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:directN1-1. #
20151  #te:sawa-aiueo-t1000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20152  #te:sawa-aiueo-t2000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20153  #te:sawa-aiueo-t3000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20154  #te:sawa-aiueo-t4000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20155  #te:sawa-aiueo-t5000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20156  #te:sawa-aiueo-t6000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20157  #te:sawa-aiueo-t7000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20158  #te:sawa-aiueo-t8000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:directN1-1. #
20159  #te:sawa-aiueo-t1000+4000   are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20160  #te:eguti-aiueo-t1000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20161  #te:eguti-aiueo-t2000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20162  #te:eguti-aiueo-t3000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20163  #te:eguti-aiueo-t4000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20164  #te:eguti-aiueo-t5000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20165  #te:eguti-aiueo-t6000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20166  #te:eguti-aiueo-t7000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20167  #te:eguti-aiueo-t8000+4000  are recognized as  tr:sawa-uiueo-t1000+4000   (4/5)  via  m:directN1-1. #
20168  #te:sawa-aiueo-t1000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20169  #te:sawa-aiueo-t2000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20170  #te:sawa-aiueo-t3000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20171  #te:sawa-aiueo-t4000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20172  #te:sawa-aiueo-t5000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20173  #te:sawa-aiueo-t6000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20174  #te:sawa-aiueo-t7000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:directN1-1. #
20175  #te:sawa-aiueo-t8000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (4/5)  via  m:directN1-1. #
20176  #te:sawa-aiueo-t1000+8000   are recognized as  tr:sawa-uiueo-t1000+8000   (5/5)  via  m:directN1-1. #
20177  #te:eguti-aiueo-t1000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20178  #te:eguti-aiueo-t2000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20179  #te:eguti-aiueo-t3000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20180  #te:eguti-aiueo-t4000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20181  #te:eguti-aiueo-t5000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20182  #te:eguti-aiueo-t6000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20183  #te:eguti-aiueo-t7000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20184  #te:eguti-aiueo-t8000+8000  are recognized as  tr:sawa-uiueo-t1000+8000   (4/5)  via  m:directN1-1. #
20185
20186  ### recognition using distance of poles with N=1 best???
20187  #te:sawa-aiueo-t1000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0 good!!
20188  #te:sawa-aiueo-t2000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20189  #te:sawa-aiueo-t3000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20190  #te:sawa-aiueo-t4000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20191  #te:sawa-aiueo-t5000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20192  #te:sawa-aiueo-t6000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20193  #te:sawa-aiueo-t7000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20194  #te:sawa-aiueo-t8000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:poles4N1-1. #
20195  #te:sawa-aiueo-t1000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0soso
20196  #te:sawa-aiueo-t2000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20197  #te:sawa-aiueo-t3000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20198  #te:sawa-aiueo-t4000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20199  #te:sawa-aiueo-t5000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20200  #te:sawa-aiueo-t6000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20201  #te:sawa-aiueo-t7000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20202  #te:sawa-aiueo-t8000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:poles4N1-1. #
20203  #te:sawa-aiueo-t1000+1000   are recognized as  tr:sawa-uiueo-t1000+1000   (4/5)  via  m:poles4N1-1. #
20204  #te:eguti-aiueo-t1000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0soso
20205  #te:eguti-aiueo-t2000+1000  are recognized as  tr:sawa-oiueo-t1000+1000   (5/5)  via  m:poles4N1-1. #
20206  #te:eguti-aiueo-t3000+1000  are recognized as  tr:sawa-uiuea-t1000+1000   (5/5)  via  m:poles4N1-1. #
20207  #te:eguti-aiueo-t4000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (5/5)  via  m:poles4N1-1. #
20208  #te:eguti-aiueo-t5000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (5/5)  via  m:poles4N1-1. #
20209  #te:eguti-aiueo-t6000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (4/5)  via  m:poles4N1-1. #
20210  #te:eguti-aiueo-t7000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (4/5)  via  m:poles4N1-1. #
20211  #te:eguti-aiueo-t8000+1000  are recognized as  tr:sawa-uiueo-t1000+1000   (4/5)  via  m:poles4N1-1. #
20212  #te:sawa-aiueo-t1000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0soso
20213  #te:sawa-aiueo-t2000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20214  #te:sawa-aiueo-t3000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20215  #te:sawa-aiueo-t4000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20216  #te:sawa-aiueo-t5000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (4/5)  via  m:poles4N1-1. #
20217  #te:sawa-aiueo-t6000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (4/5)  via  m:poles4N1-1. #
20218  #te:sawa-aiueo-t7000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (4/5)  via  m:poles4N1-1. #
20219  #te:sawa-aiueo-t8000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (4/5)  via  m:poles4N1-1. #
20220  #te:sawa-aiueo-t1000+3000   are recognized as  tr:sawa-aiueo-t1000+3000   (3/5)  via  m:poles4N1-1. #
20221  #te:eguti-aiueo-t1000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0soso
20222  #te:eguti-aiueo-t2000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20223  #te:eguti-aiueo-t3000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20224  #te:eguti-aiueo-t4000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
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20225  #te:sawa-aiueo-t4000+3000   are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20226  #te:sawa-aiueo-t5000+3000   are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20227  #te:sawa-aiueo-t6000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20228  #te:sawa-aiueo-t7000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20229  #te:sawa-aiueo-t8000+3000   are recognized as  tr:eguti-aiueo-t1000+3000  (5/5)  via  m:poles4N1-1. #
20230  #te:eguti-aiueo-t1000+3000  are recognized as  tr:sawa-aiuea-t1000+3000   (5/5)  via  m:poles4N1-1. #
20231  #te:eguti-aiueo-t2000+3000  are recognized as  tr:sawa-aiuea-t1000+3000   (4/5)  via  m:poles4N1-1. #
20232  #te:eguti-aiueo-t3000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (4/5)  via  m:poles4N1-1. #
20233  #te:eguti-aiueo-t4000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20234  #te:eguti-aiueo-t5000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20235  #te:eguti-aiueo-t6000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20236  #te:eguti-aiueo-t7000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20237  #te:eguti-aiueo-t8000+3000  are recognized as  tr:sawa-aiueo-t1000+3000   (5/5)  via  m:poles4N1-1. #
20238  #te:sawa-aiueo-t1000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0good, but 8000 is big
20239  #te:sawa-aiueo-t2000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20240  #te:sawa-aiueo-t3000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20241  #te:sawa-aiueo-t4000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20242  #te:sawa-aiueo-t5000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20243  #te:sawa-aiueo-t6000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20244  #te:sawa-aiueo-t7000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20245  #te:sawa-aiueo-t8000+8000   are recognized as  tr:eguti-aiueo-t1000+8000  (5/5)  via  m:poles4N1-1. #
20246  #te:eguti-aiueo-t1000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20247  #te:eguti-aiueo-t2000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20248  #te:eguti-aiueo-t3000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20249  #te:eguti-aiueo-t4000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20250  #te:eguti-aiueo-t5000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20251  #te:eguti-aiueo-t6000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20252  #te:eguti-aiueo-t7000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20253  #te:eguti-aiueo-t8000+8000  are recognized as  tr:sawa-aiueo-t1000+8000   (5/5)  via  m:poles4N1-1. #
20254  #te:sawa-aiueo-t1000+2000   are recognized as  tr:sawa-oiueo-t1000+8000   (4/5)  via  m:poles4N1-1. #
20255  #te:eguti-aiueo-t1000+2000  are recognized as  tr:sawa-aiueo-t1000+2000   (5/5)  via  m:poles4N1-1. #rj>0&&
rj<=1.0
20256  #te:sawa-aiueo-t2000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20257  #te:sawa-aiueo-t3000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20258  #te:sawa-aiueo-t4000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20259  #te:sawa-aiueo-t5000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20260  #te:sawa-aiueo-t6000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20261  #te:sawa-aiueo-t7000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20262  #te:sawa-aiueo-t8000+2000   are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20263  #te:sawa-aiueo-t1000+2000   are recognized as  tr:sawa-uiuea-t1000+2000   (3/5)  via  m:poles4N1-1. #
20264  #te:eguti-aiueo-t1000+2000  are recognized as  tr:sawa-aiueo-t1000+2000   (4/5)  via  m:poles4N1-1. #
20265  #te:eguti-aiueo-t2000+2000  are recognized as  tr:sawa-aiueo-t1000+2000   (4/5)  via  m:poles4N1-1. #
20266  #te:eguti-aiueo-t3000+2000  are recognized as  tr:sawa-aiueo-t1000+2000   (5/5)  via  m:poles4N1-1. #
20267  #te:eguti-aiueo-t4000+2000  are recognized as  tr:sawa-aiueo-t1000+2000   (5/5)  via  m:poles4N1-1. #
20268  #te:eguti-aiueo-t5000+2000  are recognized as  tr:sawa-uiueo-t1000+2000   (5/5)  via  m:poles4N1-1. #
20269  #te:eguti-aiueo-t6000+2000  are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20270  #te:eguti-aiueo-t7000+2000  are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20271  #te:eguti-aiueo-t8000+2000  are recognized as  tr:eguti-aiueo-t1000+2000  (5/5)  via  m:poles4N1-1. #
20272
20273  ### recognition using associative matrix with N=1
20274  #te:sawa-aiueo-t1000+4000   are recognized as  tr:eguti-uiueo-t1000+4000  (4/5)  via  m:M4N1-1. #soso
20275  #te:sawa-aiueo-t2000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20276  #te:sawa-aiueo-t3000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20277  #te:sawa-aiueo-t4000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20278  #te:sawa-aiueo-t5000+4000   are recognized as  tr:eguti-uiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20279  #te:sawa-aiueo-t6000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20280  #te:sawa-aiueo-t7000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20281  #te:sawa-aiueo-t8000+4000   are recognized as  tr:eguti-aiueo-t1000+4000  (5/5)  via  m:M4N1-1. #
20282  #te:sawa-aiueo-t1000+4000   are recognized as  tr:sawa-aiueo-t1000+4000   (5/5)  via  m:M4N1-1. #
20283  #te:eguti-aiueo-t1000+4000  are recognized as  tr:sawa-aiueo-t1000+4000   (5/5)  via  m:M4N1-1. #
20284  #te:eguti-aiueo-t2000+4000  are recognized as  tr:sawa-aiueo-t1000+4000   (5/5)  via  m:M4N1-1. #
20285  #te:eguti-aiueo-t3000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (5/5)  via  m:M4N1-1. #
20286  #te:eguti-aiueo-t4000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (4/5)  via  m:M4N1-1. #
20287  #te:eguti-aiueo-t5000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (4/5)  via  m:M4N1-1. #
20288  #te:eguti-aiueo-t6000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (4/5)  via  m:M4N1-1. #
20289  #te:eguti-aiueo-t7000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (4/5)  via  m:M4N1-1. #
20290  #te:eguti-aiueo-t8000+4000  are recognized as  tr:sawa-aiaeo-t1000+4000   (4/5)  via  m:M4N1-1. #
20291  te:sawa-aiueo-t1000+1000    are recognized as  tr:eguti-uiueo-t1000+1000  (4/5)  via  m:M4N1-1. #soso??
20292  #te:sawa-aiueo-t2000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:M4N1-1. #
20293  #te:sawa-aiueo-t3000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:M4N1-1. #
20294  #te:sawa-aiueo-t4000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:M4N1-1. #
20295  #te:sawa-aiueo-t5000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (5/5)  via  m:M4N1-1. #
20296  #te:sawa-aiueo-t6000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:M4N1-1. #
20297  #te:sawa-aiueo-t7000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:M4N1-1. #
20298  #te:sawa-aiueo-t8000+1000   are recognized as  tr:eguti-aiueo-t1000+1000  (4/5)  via  m:M4N1-1. #
20299  #te:sawa-aiueo-t1000+1000   are recognized as  tr:sawa-aeueo-t1000+1000   (3/5)  via  m:M4N1-1. #
20300  #te:eguti-aiueo-t1000+1000  are recognized as  tr:sawa-aiueo-t1000+1000   (5/5)  via  m:M4N1-1. #
20301  #te:eguti-aiueo-t2000+1000  are recognized as  tr:sawa-aiueo-t1000+1000   (5/5)  via  m:M4N1-1. #
20302  #te:eguti-aiueo-t3000+1000  are recognized as  tr:sawa-aiaeo-t1000+1000   (4/5)  via  m:M4N1-1. #
20303  #te:eguti-aiueo-t5000+1000  are recognized as  tr:sawa-aiaeo-t1000+1000   (4/5)  via  m:M4N1-1. #
20304  #te:eguti-aiueo-t6000+1000  are recognized as  tr:sawa-aiaeo-t1000+1000   (4/5)  via  m:M4N1-1. #
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20305 #te:eguti-aiueo-t7000+1000 are recognized as tr:sawa-aeaeo-t1000+1000 (3/5) via m:M4N1-1.#
20306 #te:eguti-aiueo-t8000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (4/5) via m:M4N1-1.#
20307 &&&rj<=1.0
20308 ### recognition using distance of poles with N=1
20309 #te:sawa-aiueo-t1000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#rj>0
20310 #te:sawa-aiueo-t2000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20311 #te:sawa-aiueo-t3000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20312 #te:sawa-aiueo-t4000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20313 #te:sawa-aiueo-t5000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20314 #te:sawa-aiueo-t6000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20315 #te:sawa-aiueo-t7000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20316 #te:sawa-aiueo-t8000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20317 #te:eguti-aiueo-t1000+8000 are recognized as tr:sawa-uiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20318 #te:eguti-aiueo-t2000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20319 #te:eguti-aiueo-t3000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20320 #te:eguti-aiueo-t4000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20321 #te:eguti-aiueo-t5000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20322 #te:eguti-aiueo-t6000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20323 #te:eguti-aiueo-t7000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20324 #te:eguti-aiueo-t8000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N32-32.#
20325 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#
20326 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (3/5) via m:poles4N32-32.#rj>0
20327 &&&rj<=1.0Ososo?
20328 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#
20329 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#
20330 #te:sawa-aiueo-t4000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#
20331 #te:sawa-aiueo-t5000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#
20332 #te:sawa-aiueo-t6000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#
20333 #te:sawa-aiueo-t7000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#
20334 #te:sawa-aiueo-t8000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#
20335 #te:eguti-aiueo-t1000+4000 are recognized as tr:sawa-uiuee-t1000+4000 (4/5) via m:poles4N32-32.#
20336 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#
20337 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#
20338 #te:eguti-aiueo-t4000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#
20339 #te:eguti-aiueo-t5000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#
20340 #te:eguti-aiueo-t6000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#
20341 #te:eguti-aiueo-t7000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#
20342 #te:eguti-aiueo-t8000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#
20343 #te:sawa-aiueo-t1000+1000 are recognized as tr:eguti-aiuee-t1000+1000 (3/5) via m:poles4N1-1.#rj>0.5
20344 #te:sawa-aiueo-t2000+1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20345 #te:sawa-aiueo-t3000+1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20346 #te:sawa-aiueo-t4000+1000 are recognized as tr:eguti-aiueo-t1000+1000 (4/5) via m:poles4N1-1.#
20347 #te:sawa-aiueo-t5000+1000 are recognized as tr:eguti-aeuee-t1000+1000 (3/5) via m:poles4N1-1.#
20348 #te:sawa-aiueo-t6000+1000 are recognized as tr:eguti-ueueo-t1000+1000 (3/5) via m:poles4N1-1.#
20349 #te:sawa-aiueo-t7000+1000 are recognized as tr:eguti-aeueo-t1000+1000 (4/5) via m:poles4N1-1.#
20350 #te:sawa-aiueo-t8000+1000 are recognized as tr:eguti-aeueo-t1000+1000 (4/5) via m:poles4N1-1.#
20351 #te:eguti-aiueo-t1000+1000 are recognized as tr:sawa-aiuee-t1000+1000 (4/5) via m:poles4N1-1.#
20352 #te:eguti-aiueo-t2000+1000 are recognized as tr:sawa-uiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20353 #te:eguti-aiueo-t3000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20354 #te:eguti-aiueo-t4000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20355 #te:eguti-aiueo-t5000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20356 #te:eguti-aiueo-t6000+1000 are recognized as tr:sawa-ueueo-t1000+1000 (4/5) via m:poles4N1-1.#
20357 #te:eguti-aiueo-t7000+1000 are recognized as tr:sawa-aeueo-t1000+1000 (4/5) via m:poles4N1-1.#
20358 #te:eguti-aiueo-t8000+1000 are recognized as tr:sawa-aeueo-t1000+1000 (4/5) via m:poles4N1-1.#
20359 #te:sawa-aiueo-t1000+2000 are recognized as tr:eguti-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20360 #te:sawa-aiueo-t2000+2000 are recognized as tr:eguti-aiueo-t1000+2000 (4/5) via m:poles4N1-1.#rj>0.5
20361 #te:sawa-aiueo-t3000+2000 are recognized as tr:eguti-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20362 #te:sawa-aiueo-t4000+2000 are recognized as tr:eguti-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20363 #te:sawa-aiueo-t5000+2000 are recognized as tr:eguti-ueueo-t1000+2000 (3/5) via m:poles4N1-1.#
20364 #te:sawa-aiueo-t6000+2000 are recognized as tr:eguti-ueueo-t1000+2000 (3/5) via m:poles4N1-1.#
20365 #te:sawa-aiueo-t7000+2000 are recognized as tr:eguti-aeueo-t1000+2000 (4/5) via m:poles4N1-1.#
20366 #te:sawa-aiueo-t8000+2000 are recognized as tr:eguti-aeueo-t1000+2000 (4/5) via m:poles4N1-1.#
20367 #te:eguti-aiueo-t1000+2000 are recognized as tr:sawa-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20368 #te:eguti-aiueo-t2000+2000 are recognized as tr:sawa-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20369 #te:eguti-aiueo-t3000+2000 are recognized as tr:sawa-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20370 #te:eguti-aiueo-t4000+2000 are recognized as tr:sawa-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20371 #te:eguti-aiueo-t5000+2000 are recognized as tr:sawa-aiueo-t1000+2000 (5/5) via m:poles4N1-1.#
20372 #te:eguti-aiueo-t6000+2000 are recognized as tr:sawa-ueueo-t1000+2000 (4/5) via m:poles4N1-1.#
20373 #te:eguti-aiueo-t7000+2000 are recognized as tr:sawa-aeueo-t1000+2000 (4/5) via m:poles4N1-1.#
20374 #te:eguti-aiueo-t8000+2000 are recognized as tr:sawa-aeueo-t1000+2000 (4/5) via m:poles4N1-1.#
20375 #te:eguti-aiueo-t8000+2000 are recognized as tr:sawa-aeueo-t1000+2000 (4/5) via m:poles4N1-1.#
20376
20377 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#rj>0.5
20378 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20379 &&&rj<=1.0
20380 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20381 #te:sawa-aiueo-t4000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
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20382 #te:sawa-aiueo-t5000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20383 #te:sawa-aiueo-t6000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20384 #te:sawa-aiueo-t7000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20385 #te:sawa-aiueo-t8000+4000 are recognized as tr:eguti-aeueo-t1000+4000 (5/5) via m:poles4N1-1.#
20386 #te:eguti-aiueo-t1000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20387 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20388 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20389 #te:eguti-aiueo-t4000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20390 #te:eguti-aiueo-t5000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20391 #te:eguti-aiueo-t6000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20392 #te:eguti-aiueo-t7000+4000 are recognized as tr:sawa-uiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20393 #te:eguti-aiueo-t8000+4000 are recognized as tr:sawa-uiueo-t1000+4000 (4/5) via m:poles4N1-1.#
20394 #te:eguti-aiueo-t8000+4000 are recognized as tr:sawa-aeueo-t1000+4000 (4/5) via m:poles4N1-1.#
20395 #te:eguti-aiueo-t1000+7000 are recognized as tr:sawa-uiueo-t1000+7000 (5/5) via m:poles4N1-1.#rj>0.5
20396 &&&rj<=1.0
20397 #te:eguti-aiueo-t2000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20398 #te:eguti-aiueo-t3000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20399 #te:eguti-aiueo-t4000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20400 #te:eguti-aiueo-t5000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20401 #te:eguti-aiueo-t6000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (4/5) via m:poles4N1-1.#
20402 #te:eguti-aiueo-t7000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20403 #te:eguti-aiueo-t8000+7000 are recognized as tr:sawa-aeueo-t1000+7000 (5/5) via m:poles4N1-1.#
20404 #te:eguti-aiueo-t1000+7000 are recognized as tr:sawa-uiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20405 #te:eguti-aiueo-t2000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20406 #te:eguti-aiueo-t3000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20407 #te:eguti-aiueo-t4000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20408 #te:eguti-aiueo-t5000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20409 #te:eguti-aiueo-t6000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (5/5) via m:poles4N1-1.#
20410 #te:eguti-aiueo-t7000+7000 are recognized as tr:sawa-aiueo-t1000+7000 (4/5) via m:poles4N1-1.#
20411 #te:eguti-aiueo-t8000+7000 are recognized as tr:sawa-aeueo-t1000+7000 (5/5) via m:poles4N1-1.#
20412 #te:sawa-aiueo-t1000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#rj>0.5
20413 &&&rj<=1.0
20414 #te:sawa-aiueo-t2000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20415 #te:sawa-aiueo-t3000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20416 #te:sawa-aiueo-t4000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20417 #te:sawa-aiueo-t5000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20418 #te:sawa-aiueo-t6000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20419 #te:sawa-aiueo-t7000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20420 #te:sawa-aiueo-t8000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20421 #te:eguti-aiueo-t1000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20422 #te:eguti-aiueo-t2000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20423 #te:eguti-aiueo-t3000+8000 are recognized as tr:sawa-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20424 #te:eguti-aiueo-t4000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20425 #te:eguti-aiueo-t5000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20426 #te:eguti-aiueo-t6000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20427 #te:eguti-aiueo-t7000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20428 #te:eguti-aiueo-t8000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20429 #te:eguti-aiueo-t1000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#rj>0
20430 #te:eguti-aiueo-t2000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20431 #te:eguti-aiueo-t3000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20432 #te:eguti-aiueo-t4000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20433 #te:eguti-aiueo-t5000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20434 #te:eguti-aiueo-t6000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20435 #te:eguti-aiueo-t7000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20436 #te:eguti-aiueo-t8000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20437 #te:eguti-aiueo-t1000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20438 #te:eguti-aiueo-t2000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20439 #te:eguti-aiueo-t3000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20440 #te:eguti-aiueo-t4000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20441 #te:eguti-aiueo-t5000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20442 #te:eguti-aiueo-t6000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (5/5) via m:poles4N32-32.#
20443 #te:eguti-aiueo-t7000+8000 are recognized as tr:sawa-aiaeo-t1000+8000 (4/5) via m:poles4N32-32.#
20444 #te:eguti-aiueo-t8000+8000 are recognized as tr:sawa-aiuao-t1000+8000 (4/5) via m:poles4N32-32.#
20445
20446 export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000; export N2=${N1} #
20447 for testname in sawa eguti ; do
20448 if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20449 for t2 in 1000 2000 3000 4000 5000 6000 7000 8000 ; do
20450 echo "vowelrecog te:${trainname} tr:${trainname} k:9 N:${N2} m:${method} T:${T} tt:${t0}:${t1}
:${t2}:${t3}"
20451 #echo n | vowelrecog te:${testname} tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:$
{t1}:${t2}:${t3}>/dev/null
20452 echo n | vowelrecog te:dy-${trainname} tr:dy-${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${
t0}:${t1}:${t2}:${t3}>/dev/null
20453 done
20454 done
20455 #te:dy-sawa-aiueo-t1000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (4/5) via m:directN1-1.#
rj>0.5&&&rj<=1.0
```

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20538 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:directN1-1.#
20539 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-uiueo-t1000+4000 (4/5) via m:directN1-1.#
20540 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-uiueo-t1000+4000 (4/5) via m:directN1-1.#
20541 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-uiueo-t1000+4000 (4/5) via m:directN1-1.#
20542 
20543 #te:sawa-aiueo-t1000+1000 are recognized as tr:eguti-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20544 #te:sawa-aiueo-t1000+1000 are recognized as tr:eguti-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20545 #te:sawa-aiueo-t2000+1000 are recognized as tr:eguti-aiueo-t2000+1000 (3/5) via m:poles4N32-32.#
20546 #te:sawa-aiueo-t3000+1000 are recognized as tr:eguti-aiaoo-t3000+1000 (3/5) via m:poles4N32-32.#
20547 
20548 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20549 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20550 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20551 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiooo-t2000+1000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20552 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t2000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20553 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t2000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20554 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiieo-t3000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20555 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t3000+1000 (5/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20556 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiueo-t3000+1000 (5/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20557 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-oioeo-t4000+1000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20558 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aioeo-t4000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20559 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-oioeo-t4000+1000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20560 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t5000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20561 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t5000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20562 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t5000+1000 (4/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20563 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t6000+1000 (4/5) via m:poles4N32-32.#
20564 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t6000+1000 (4/5) via m:poles4N32-32.#
20565 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t6000+1000 (4/5) via m:poles4N32-32.#
20566 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t7000+1000 (4/5) via m:poles4N32-32.#
20567 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiieo-t7000+1000 (4/5) via m:poles4N32-32.#
20568 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t7000+1000 (4/5) via m:poles4N32-32.#
20569 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t8000+1000 (5/5) via m:poles4N32-32.#
20570 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t8000+1000 (5/5) via m:poles4N32-32.#
20571 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t8000+1000 (4/5) via m:poles4N32-32.#
20572 
20573 #te:sawa-aiueo-t1000+5000 are recognized as tr:eguti-aiaeo-t1000+1000 (4/5) via m:poles4N32-32.#
20574 #te:sawa-aiueo-t2000+5000 are recognized as tr:eguti-aeuoo-t2000+1000 (2/5) via m:poles4N32-32.#
20575 #te:sawa-aiueo-t3000+5000 are recognized as tr:eguti-aaaoo-t8000+1000 (2/5) via m:poles4N32-32.#
20576 
20577 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aeuoo-t3000+4000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20578 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aeuoo-t3000+4000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20579 #te:sawa-aiueo-t3000+4000 are recognized as tr:eeloo-t3000+4000 (2/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20580 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20581 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0ri>0.1&&ri<=1
20582 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiooo-t2000+1000 (3/5) via m:poles4N32-32.#rj>0
.5&&rj<=1.0
20583 
20584 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20585 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t1000+1000 (4/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20586 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aeuoo-t3000+1000 (3/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20587 #te:eguti-aiueo-t1000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20588 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aeloo-t1000+4000 (3/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20589 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
.0 || rj<0.35 also <0.5
20590 
20591 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-oeuoo-t1000+4000 (2/5) via m:poles4N32-32.#rj>0
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20456 #te:dy-sawa-aiueo-t2000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (4/5) via m:directN1-1.#
20457 #te:dy-sawa-aiueo-t3000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (4/5) via m:directN1-1.#
20458 #te:dy-sawa-aiueo-t4000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (4/5) via m:directN1-1.#
20459 #te:dy-sawa-aiueo-t5000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (5/5) via m:directN1-1.#
20460 #te:dy-sawa-aiueo-t6000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (5/5) via m:directN1-1.#
20461 #te:dy-sawa-aiueo-t7000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (5/5) via m:directN1-1.#
20462 #te:dy-sawa-aiueo-t8000+1000 are recognized as tr:dy-eguti-aiaeo-t1000+1000 (4/5) via m:directN1-1.#
20463 #te:dy-eguti-aiueo-t1000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20464 #te:dy-eguti-aiueo-t2000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20465 #te:dy-eguti-aiueo-t3000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20466 #te:dy-eguti-aiueo-t4000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20467 #te:dy-eguti-aiueo-t5000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20468 #te:dy-eguti-aiueo-t6000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20469 #te:dy-eguti-aiueo-t7000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20470 #te:dy-eguti-aiueo-t8000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (4/5) via m:directN1-1.#
20471 
20472 
20473 #te:dy-eguti-aiueo-t1000+1000 are recognized as tr:dy-eguti-oiueo-t1000+1000 (4/5) via m:poles4N1-1.#
20474 #te:dy-sawa-aiueo-t1000+1000 are recognized as tr:dy-eguti-oiueo-t1000+1000 (4/5) via m:poles4N1-1.#
20475 #te:dy-sawa-aiueo-t3000+1000 are recognized as tr:dy-eguti-oiueo-t1000+1000 (4/5) via m:poles4N1-1.#
20476 #te:dy-sawa-aiueo-t4000+1000 are recognized as tr:dy-eguti-oiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20477 #te:dy-sawa-aiueo-t5000+1000 are recognized as tr:dy-eguti-oeuoo-t1000+1000 (3/5) via m:poles4N1-1.#
20478 #te:dy-sawa-aiueo-t6000+1000 are recognized as tr:dy-eguti-oeuoo-t1000+1000 (4/5) via m:poles4N1-1.#
20479 #te:dy-sawa-aiueo-t7000+1000 are recognized as tr:dy-eguti-aeuoo-t1000+1000 (4/5) via m:poles4N1-1.#
20480 #te:dy-sawa-aiueo-t8000+1000 are recognized as tr:dy-eguti-aeuoo-t1000+1000 (4/5) via m:poles4N1-1.#
20481 #te:dy-eguti-aiueo-t1000+1000 are recognized as tr:dy-sawa-eiaeo-t1000+1000 (2/5) via m:poles4N1-1.#
20482 #te:dy-eguti-aiueo-t2000+1000 are recognized as tr:dy-sawa-uiueo-t1000+1000 (3/5) via m:poles4N1-1.#
20483 #te:dy-eguti-aiueo-t3000+1000 are recognized as tr:dy-sawa-eiueo-t1000+1000 (4/5) via m:poles4N1-1.#
20484 #te:dy-eguti-aiueo-t4000+1000 are recognized as tr:dy-sawa-aiaeo-t1000+1000 (4/5) via m:poles4N1-1.#
20485 #te:dy-eguti-aiueo-t5000+1000 are recognized as tr:dy-sawa-eiueo-t1000+1000 (5/5) via m:poles4N1-1.#
20486 #te:dy-eguti-aiueo-t6000+1000 are recognized as tr:dy-sawa-iiaeo-t1000+1000 (3/5) via m:poles4N1-1.#
20487 #te:dy-eguti-aiueo-t7000+1000 are recognized as tr:dy-sawa-aiaeo-t1000+1000 (4/5) via m:poles4N1-1.#
20488 #te:dy-eguti-aiueo-t8000+1000 are recognized as tr:dy-sawa-aiaeo-t1000+1000 (4/5) via m:poles4N1-1.#
20489 
20490 #te:dy-sawa-aiueo-t1000+8000 are recognized as tr:dy-eguti-oiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20491 #te:dy-sawa-aiueo-t2000+8000 are recognized as tr:dy-eguti-uiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20492 #te:dy-sawa-aiueo-t3000+8000 are recognized as tr:dy-eguti-uiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20493 #te:dy-sawa-aiueo-t4000+8000 are recognized as tr:dy-eguti-uiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20494 #te:dy-sawa-aiueo-t5000+8000 are recognized as tr:dy-eguti-oeuoo-t1000+8000 (5/5) via m:poles4N1-1.#
20495 #te:dy-sawa-aiueo-t6000+8000 are recognized as tr:dy-eguti-uiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20496 #te:dy-sawa-aiueo-t7000+8000 are recognized as tr:dy-eguti-uiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20497 #te:dy-sawa-aiueo-t8000+8000 are recognized as tr:dy-eguti-oiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20498 #te:dy-eguti-aiueo-t1000+8000 are recognized as tr:dy-sawa-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20499 #te:dy-eguti-aiueo-t2000+8000 are recognized as tr:dy-sawa-eiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20500 #te:dy-eguti-aiueo-t3000+8000 are recognized as tr:dy-sawa-eiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20501 #te:dy-eguti-aiueo-t4000+8000 are recognized as tr:dy-sawa-aiueo-t1000+8000 (4/5) via m:poles4N1-1.#
20502 #te:dy-eguti-aiueo-t5000+8000 are recognized as tr:dy-sawa-iiaeo-t1000+8000 (3/5) via m:poles4N1-1.#
20503 #te:dy-eguti-aiueo-t6000+8000 are recognized as tr:dy-sawa-aiaeo-t1000+8000 (5/5) via m:poles4N1-1.#
20504 #te:dy-eguti-aiueo-t7000+8000 are recognized as tr:dy-sawa-aiaeo-t1000+8000 (4/5) via m:poles4N1-1.#
20505 #te:dy-eguti-aiueo-t8000+8000 are recognized as tr:dy-sawa-aiaeo-t1000+8000 (4/5) via m:poles4N1-1.#
20506 
20507 #te:sawa-aiueo-t1000+6000 are recognized as tr:eguti-aiueo-t1000+6000 (5/5) via m:poles4N1-1.#
20508 #te:sawa-aiueo-t2000+6000 are recognized as tr:eguti-aeuoo-t1000+6000 (4/5) via m:poles4N1-1.#
20509 #te:sawa-aiueo-t3000+6000 are recognized as tr:eguti-aiaeo-t1000+6000 (4/5) via m:poles4N1-1.#
20510 
20511 #te:sawa-aiueo-t1000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20512 #te:sawa-aiueo-t2000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:poles4N1-1.#
20513 #te:sawa-aiueo-t3000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:directN1-1.#
20514 #te:sawa-aiueo-t1000+8000 are recognized as tr:eguti-aiueo-t1000+8000 (5/5) via m:directN1-1.#
20515 #te:sawa-aiueo-t2000+8000 are recognized as tr:eguti-aeuoo-t1000+8000 (4/5) via m:directN1-1.#
20516 #te:sawa-aiueo-t3000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:directN1-1.#
20517 #te:sawa-aiueo-t1000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:directN1-1.#
20518 #te:sawa-aiueo-t2000+8000 are recognized as tr:eguti-aeuoo-t1000+8000 (4/5) via m:directN1-1.#
20519 #te:sawa-aiueo-t3000+8000 are recognized as tr:eguti-aiaeo-t1000+8000 (4/5) via m:directN1-1.#
20520 
20521 
20522 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20523 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20524 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#
20525 #te:eguti-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#
20526 #te:eguti-aiueo-t2000+4000 are recognized as tr:eguti-aiao-t1000+4000 (4/5) via m:poles4N32-32.#
20527 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#
20528 
20529 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20530 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (4/5) via m:poles4N1-1.#
20531 #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N1-1.#
20532 #te:eguti-aiueo-t1000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20533 #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N1-1.#
20534 #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (4/5) via m:poles4N1-1.#
20535 
20536 #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:directN1-1.#
20537 #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiueo-t1000+4000 (5/5) via m:directN1-1.#
```

```
       .5&&rj<=1.0ri>0.5&&ri<=1
20592  #te:sawa-aiueo-t2000+4000 (4/5) via m:poles4N32-32.#rj>0
       .5&&rj<=1.0ri>0.5&&ri<=1
20593  #te:sawa-aiueo-t3000+4000 (3/5) via m:poles4N32-32.#rj>0
       .5&&rj<=1.0ri>0.5&&ri<=1
20594  #te:eguti-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#rj>0
       .5&&rj<=1.0ri>0.5&&ri<=1
20595  #te:eguti-aiueo-t2000+4000 (5/5) via m:poles4N32-32.#rj>0
       .5&&rj<=1.0ri>0.5&&ri<=1
20596  #te:eguti-aiueo-t3000+4000 (5/5) via m:poles4N32-32.#rj>0
       .5&&rj<=1.0ri>0.5&&ri<=1
20597
20598
20599  .0 || rj<0.50also <0.35
20600  #te:eguti-aiueo-t1000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50also <0.35
20601  #te:eguti-aiueo-t2000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50also <0.35
20602  #te:eguti-aiueo-t3000+4000 are recognized as tr:sawa-aiueo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50also <0.35
20603  #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20604  #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20605  #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20606  #eguti の1000+2000から変なデータが入っている?
20607
20608  .0 || rj<0.35
20609  #te:sawa-aiueo-t1000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20610  #te:sawa-aiueo-t2000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20611  #te:sawa-aiueo-t3000+4000 are recognized as tr:eguti-aiaeo-t1000+4000 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20612
20613  .0 || rj<0.50
20614  #te:sawa-aiueo-t1000+3000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20615  #te:sawa-aiueo-t2000+3000 are recognized as tr:eguti-aiueo-t1000+1000 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20616  #te:sawa-aiueo-t3000+3000 are recognized as tr:eguti-aiueo-t1000+3000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20617  #te:sawa-aiueo-t1000+3000 are recognized as tr:eguti-aiueo-t1000+3000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20618  #te:sawa-aiueo-t2000+3000 are recognized as tr:eguti-aiaea-t1000+1000 (3/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20619  #te:sawa-aiueo-t3000+3000 are recognized as tr:eguti-aiiea-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20620  #te:eguti-aiueo-t1000+3000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20621  #te:eguti-aiueo-t2000+3000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20622  #te:eguti-aiueo-t3000+3000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20623  #te:eguti-aiueo-t1000+1600 are recognized as tr:sawa-aiueo-t1000+1600 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20624  #te:eguti-aiueo-t2000+1600 are recognized as tr:sawa-aiaeo-t1000+1600 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20625  #te:eguti-aiueo-t3000+1600 are recognized as tr:sawa-aiaeo-t1000+1600 (3/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20626  #te:sawa-aiueo-t1000+1600 are recognized as tr:eguti-aiiea-t1000+1600 (3/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20627
20628  .0 || rj<0.35
20629  #te:eguti-aiueo-t1000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20630  #te:eguti-aiueo-t2000+1000 are recognized as tr:sawa-aauuo-t1000+1000 (3/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20631  #te:eguti-aiueo-t3000+1000 are recognized as tr:sawa-aiaoo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.50
20632  #te:sawa-aiueo-t1000+1000 are recognized as tr:eguti-aiiea-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20633  #te:sawa-aiueo-t2000+1000 are recognized as tr:eguti-aiiea-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20634  #te:sawa-aiueo-t3000+1000 are recognized as tr:eguti-aiueo-t1000+1000 (5/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20635  #te:eguti-aiueo-t1000+1000 are recognized as tr:sawa-aiaeo-t1000+1000 (4/5) via m:poles4N40-40.#
20636  #te:eguti-aiueo-t2000+1000 are recognized as tr:sawa-aioeo-t1000+1000 (5/5) via m:poles4N40-40.#
20637  #te:eguti-aiueo-t3000+1000 are recognized as tr:sawa-aiueo-t1000+1000 (5/5) via m:poles4N40-40.#
20638
20639
20640  #te:sawa-aiueo-t1000+i600 are recognized as tr:eguti-aiaoo-t1000+1600 (3/5) via m:poles4N32-32.#rj>1
```

```
       .0 || rj<0.35
20641  #te:sawa-aiueo-t2000+1600 are recognized as tr:eguti-aiaeo-t1000+1600 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20642  #te:sawa-aiueo-t3000+1600 are recognized as tr:eguti-aeaeo-t1000+1600 (4/5) via m:poles4N32-32.#rj>1
       .0 || rj<0.35
20643  #te:eguti-aiueo-t1000+1500 are recognized as tr:sawa-aiueo-t1000+1500 (4/5) via m:poles4N1-1.#rj>1.0
       || rj<0.35
20644  #te:eguti-aiueo-t2000+1500 are recognized as tr:sawa-aiueo-t1000+1500 (4/5) via m:poles4N1-1.#rj>1.0
       || rj<0.35
20645  #te:eguti-aiueo-t3000+1500 are recognized as tr:sawa-aiueo-t1000+1500 (5/5) via m:poles4N1-1.#rj>1.0
       || rj<0.35
20646  #te:sawa-aiueo-t1000+1500 are recognized as tr:eguti-aiueo-t1000+1500 (5/5) via m:poles4N1-1.#rj>1.0
       || rj<0.35
20647
20648  export T=100 N1=1 method=poles4 t0=1000 t1=1500 t2=1000 t3=1500: export N2=${N1} #
20649  for testname in eguti ; do #for testname in sawa
20650  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
       ame=sawa ;fi
20651  for t2 in 1000 2000 3000 ; do
20652  echo "vowelrecog te:${testname} tr:${trainname} k:9 N1:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}
       :${t2}:${t3}"
20653  echo n | vowelrecog te:${testname} tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
       t1}:${t2}:${t3}
20654  done
20655  done
20656  #te:eguti-aiueo-t1000+1500 are recognized as tr:sawa-aiueo-t1000+1500 via m:poles4N1-1.#OK
20657  #te:eguti-aiueo-t2000+1500 are recognized as tr:sawa-aiueo-t1000+1500 via m:poles4N1-1.#OK
20658  #te:eguti-aiueo-t3000+1500 are recognized as tr:sawa-aiueo-t1000+1500 via m:poles4N1-1.#OK
20659
20660  #te:eguti-aiueo-t1000+1500 are recognized as tr:sawa-uiueo-t1000+1500 via m:poles4N1-1.#NG4
20661  #te:eguti-aiueo-t2000+1500 are recognized as tr:sawa-eiueo-t1000+1500 via m:poles4N1-1.#NG3
20662  #te:eguti-aiueo-t3000+1500 are recognized as tr:sawa-aiueo-t1000+1500 via m:poles4N1-1.#OK
20663
20664  #te:sawa-aiueo-t1000+1500 are recognized as tr:eguti-aiueo-t1000+1500 via m:poles4N1-1.#OK
20665  #te:sawa-aiueo-t2000+1500 are recognized as tr:eguti-aiueo-t1000+1500 via m:poles4N1-1.#OK
20666  #te:sawa-aiueo-t3000+1500 are recognized as tr:eguti-aiueo-t1000+1500 via m:poles4N1-1.#OK
20667
20668
20669
20670
20671  #te:eguti-aiueo-t1000+1500 are recognized as tr:sawa-aiueo-t1000+1500 via m:poles4N1-1.#OKif(rj>1 ||
       rj<0.5) ;
20672  #te:eguti-aiueo-t2000+1500 are recognized as tr:eguti-eiueo-t1000+1500 via m:poles4N1-1.#NG3if(rj>1 |
       | rj<0.5);
20673
20674  #te:eguti-aiueo-t1000+1000 are recognized as tr:sawa-aiueo-t1000+1000 via m:poles4N32-32.#OK
20675  #te:eguti-aiueo-t2000+1000 are recognized as tr:sawa-aiueo-t1000+1000 via m:poles4N32-32.#OK
20676  #te:eguti-aiueo-t3000+1000 are recognized as tr:sawa-aauuo-t1000+1000 via m:poles4N32-32.#
20677
20678  #te:sawa-aiueo-t1000+1000 are recognized as tr:eguti-aiueo-t1000+1000 via m:poles4N32-32.#OK
20679  #te:sawa-aiueo-t2000+1000 are recognized as tr:eguti-aiueo-t1000+1000 via m:poles4N32-32.#OK
20680  #te:sawa-aiueo-t3000+1000 are recognized as tr:eguti-aiueo-t1000+1000 via m:poles4N32-32.#OK
20681
20682
20683
20684
20685  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1} #
20686  #te:eguti-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20687  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1} #
20688  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#NG4
20689  #te:eguti-aiueo is recognized as tr:eguti-aiaeo via method=poles4.#NG4
20690  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=3000 t3=1000: export N2=${N1} #
20691  #te:eguti-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20692  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#NG3
20693  #te:eguti-aiueo is recognized as tr:sawa-aauuo via method=poles4.#NG4
20694  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1} #
20695  #te:eguti-aiueo is recognized as tr:sawa-aiueu via method=poles4.#NG4
20696  #te:eguti-aiueo is recognized as tr:sawa-aiueu via method=poles4.#NG4
20697  export T=100 N1=32 method=poles4 t0=1000 t1=2000 t3=2000: export N2=${N1} #
20698  #te:eguti-aiueo is recognized as tr:eguti-aiaoo via method=poles4.#NG4
20699  #te:eguti-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20700  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1} #
20701  #te:eguti-aiueo is recognized as tr:eguti-aiueo via method=poles4.#NG4
20702  #te:eguti-aiueo is recognized as tr:sawa-aiuee via method=poles4.#NG4
20703  #for testname in eguti ; do
20704  for testname in sawa ; do
20705  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
       ame=sawa ;fi
20706  echo "vowelrecog te:${testname} tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${t1}
       :${t2}:${t3}"
20707  echo n | vowelrecog te:${testname} tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
       t1}:${t2}:${t3}
20708  done
```

```
20709
20710  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=2000; export N2=${N1} #
20711  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#
20712  #te:eguti-aiueo is recognized as tr:sawa-uiuea via method=poles4.#
20713  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=3000 t3=3000; export N2=${N1} #
20714  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#
20715  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#
20716  #for testname in eguti ; do
20717  for testname in sawa eguti; do
20718  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20719  echo "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
:${t2}:${t3}
t1}:${t2}:${t3}"
20721  done
20722  echo n | vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
20723
20724  060112am
20725  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=2000; export N2=${N1} #
20726  #te:sawa-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20727  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20728  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=2000 t3=2000; export N2=${N1} #
20729  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20730  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#NG4
20731  export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=3000 t3=3000; export N2=${N1} #
20732  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20733  #te:eguti-aiueo is recognized as tr:sawa-aaueo via method=poles4.#NG4
20734  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=2000; export N2=${N1} #
20735  #te:sawa-aiueo is recognized as tr:sawa-aiuee via method=poles4.#NG4
20736  #te:eguti-aiueo is recognized as tr:sawa-uiuea via method=poles4.#NG4
20737  export T=100 N1=1 method=direct t0=1000 t1=1000 t2=1000 t3=2000; export N2=${N1} #
20738  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#NG4
20739  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG4
20740  export T=100 N1=1 method=direct t0=1000 t1=1000 t2=2000 t3=2000; export N2=${N1} #
20741  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#OK
20742  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG4
20743  export T=100 N1=1 method=direct t0=1000 t1=1000 t2=3000 t3=3000; export N2=${N1} #
20744  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#NG4
20745  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#OK
20746  export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=3000 t3=3000; export N2=${N1} #
20747  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20748  #te:eguti-aiueo is recognized as tr:sawa-uiuea via method=poles4.#NG3
20749
20750  #for testname in eguti ; do
20751  for testname in sawa eguti; do
20752  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20753  echo "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
:${t2}:${t3}
t1}:${t2}:${t3}"
20755  done
20756
20757  export T=100 N1=32 method=poles4 t0=1000 t1=2000; export t2=${t0} t3=${t1} N2=${N1} #
20758  #te:sawa-aiueo is recognized as tr:eguti-aooo via method=poles4.#NG2
20759  #te:eguti-aiueo is recognized as tr:sawa-aiueu via method=poles4.#NG4
20760  export T=100 N1=1 method=direct t0=1000 t1=2000; export t2=${t0} t3=${t1} N2=${N1} #
20761  #te:sawa-aiueo is recognized as tr:eguti-auuo via method=direct.#OK5
20762  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG4
20763  export T=100 N1=32 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20764  #te:sawa-aiueo is recognized as tr:eguti-oiuoo via method=direct.#NG4
20765  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#OK
20766  export T=100 N1=1 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20767  #te:sawa-aiueo is recognized as tr:eguti-auuo via method=direct.#OK5
20768  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG4
20769  export T=100 N1=1 method=M4 t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20770  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=M4.#NG4
20771  export T=100 N1=32 method=poles4 t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1} #
20772  #te:sawa-aiueo is recognized as tr:eguti-auuo via method=poles4.#NG3
20773  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#NG4
20774  export T=100 N1=1 method=direct t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1} #
20775  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#OK5
20776  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#OK5
20777  export T=100 N1=1 method=M4 t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1} #
20778  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#NG4
20779  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=poles4.#NG4
20780  export T=100 N1=1 method=M4 t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1} #
20781  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=M4.#NG4
20782  #te:eguti-aiueo is recognized as tr:sawa-aeuei via method=M4.#NG4
20783  export T=100 N1=1 method=M4 t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1} #
20784  vowelrecog te:eguti  tr:sawa k:9 N:32-32 m:poles4 T:100 tt:1000:3000:1000:3000
```

```
20785  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20786  #te:sawa-aiueo is recognized as tr:eguti-aeoeo via method=poles4.#NG3
20787  #for testname in eguti ; do
20788  for testname in sawa ; do
20789  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20790  echo n "vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
:${t2}:${t3}"
20791  echo n | vowelrecog te:${testname}  tr:${trainname}  k:9 N:${N1}-${N2} m:${method} T:${T} tt:${t0}:${
t1}:${t2}:${t3}
20792  done
20793
20794
20795  060110pm
20796  ##################################
20797  #different options for more convenient
20798  #     tt:<t0>:<t1>:<t2>:<t3> : [<t0>,<t0>+<t1>] for training, [<t2>,<t2>+<t3>] for test
20799  #  m:poles4    distance of poles
20800  #  m:M4        distance of Associative Matirices
20801  #  m:direct    prediction error
20802
20803  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=2000 t2=1000 t3=2000: export N2=${N1}
20804  #te:sawa-aiueo is recognized as tr:eguti-oiueo via method=direct.#
20805  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#
20806  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t2=1000 t3=2000: export N2=${N1} #NG
20807  #te:sawa-aiueo is recognized as tr:eguti-aiuoo via method=poles4.#NG
20808  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#NG
20809  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t2=1000 t3=2000: export N2=${N1} #NG
20810  #te:sawa-aiueo is recognized as tr:eguti-oiueo via method=direct.#NG
20811  #te:eguti-aiueo is recognized as tr:sawa-oiueo via method=direct.#NG
20812  rm -rf tmp;export T=100 N1=1 method=direct t0=1000 t1=1000 t2=1000 t3=1000; export N2=${N1}
20813  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#OK
20814  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG
20815  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1}
20816  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#NG
20817  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#OK
20818  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1}
20819  #te:sawa-aiueo is recognized as tr:eguti-aiaeo via method=poles4.#NG
20820  #te:eguti-aiueo is recognized as tr:sawa-oiueo via method=poles4.#NG
20821  rm -rf tmp;export T=100 N1=1 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000: export N2=${N1}
20822  #te:sawa-aiueo is recognized as tr:eguti-aiouo via method=poles4.#NG
20823  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=poles4.#
20824  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000 N2=35
20825  #te:sawa-aiueo is recognized as tr:eguti-aiooo via method=poles4.#
20826  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=1000 t2=1000 t3=1000 N2=40
20827  #te:sawa-aiueo is recognized as tr:eguti-aiooo via method=poles4.#
20828  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=1500; export t2=${t0} t3=${t1} N2=${N1}
20829  #te:sawa-aiueo is recognized as tr:eguti-auuo via method=poles4.#
20830  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=2500: export t2=${t0} t3=${t1} N2=${N1}
20831  #te:sawa-aiueo is recognized as tr:eguti-aiuio via method=poles4.#
20832  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=800; export t2=${t0} t3=${t1} N2=${N1}
20833  #te:eguti-aiueo is recognized as tr:sawa-aiuao via method=poles4._t4=800
20834  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=3000; export t2=${t0} t3=${t1} N2=${N1} #_t4
=800 and 200)
20835  #te:sawa-aiueo is recognized as tr:eguti-aeueo via method=poles4.#
20836  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#
20837  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #_t4
=800 and 200)
20838  #te:sawa-aiueo is recognized as tr:eguti-aiuoo via method=poles4.#rz2<0.2
20839  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#rz2>1.0 || rz2<0.2
20840  rm -rf tmp;export T=100 N1=1 method=poles4 t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20841  #te:sawa-aiueo is recognized as tr:eguti-aiuoo via method=poles4.#OK
20842  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#NG
20843  rm -rf tmp;export T=100 N1=1 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20844  #te:sawa-aiueo is recognized as tr:eguti-aiuuo via method=direct.#NG
20845  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG
20846  rm -rf tmp;export T=100 N1=1 method=direct t0=2000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20847  #te:sawa-aiueo is recognized as tr:eguti-aiuio via method=direct.#NG
20848  rm -rf tmp;export T=100 N1=32 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20849  #te:sawa-aiueo is recognized as tr:eguti-oiueo via method=direct.#NG
20850  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=direct.#NG
20851  rm -rf tmp;export T=100 N1=32 method=direct t0=2000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20852  #te:sawa-aiueo is recognized as tr:eguti-aiuoo via method=poles4.#OK
20853  #te:eguti-aiueo is recognized as tr:sawa-aiulo via method=direct.#NG
20854  rm -rf tmp;export T=100 N1=1 method=direct t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20855  #te:sawa-aiueo is recognized as tr:eguti-aiulo via method=direct.#NG
20856  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG
20857  rm -rf tmp;export T=100 N1=1 method=M4 t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20858  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=M4.#NG
20859  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=M4.#NG
20860  rm -rf tmp;export T=100 N1=32 method=M4 t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20861  #te:eguti-aiueo is recognized as tr:sawa-aauueo via method=M4.#NG
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20862  #te:sawa-aiueo is recognized as tr:eguti-aiuoo via method=M4.#NG
20863  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1000 t1=1000; export t2=${t0} t3=${t1} N2=${N1} #
20864  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OKrzz>1.0 || rzz2<0.35 _t4=200
20865  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OKrzz>1.0 || rzz2<0.35 _t4=200
20866  #for testname in sawa ; do
20867  for testname in sawa eguti ; do
20868  if [ "${testname}" = "sawa" ] ; then trainname=eguti ] ; then trainn
ame=sawa ;fi
20869  echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tc:${t0}:${t1}
:${t2}:${t3}"
20870  echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:${
t1}:${t2}:${t3}
20871  done
20872
20873
20874  rm -rf tmp;export T=100 N1=32 method=poles4 t0=0 t1=2000 t2=0 t3=2000
20875  export N2=${N1}
20876  for testname in sawa eguti ; do
20877  if [ "${testname}" = "sawa" ] ; then trainname=eguti ] ; then trainn
ame=sawa ;fi
20878  echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tc:${t0}:${t1}
:${t2}:${t3}"
20879  echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:${
t1}:${t2}:${t3}
20880  done
20881
20882  ########################
20883  rm -rf tmp;export T=100 N1=32 method=poles4 t0=2000 toffset=0 t2=0 t3=2000
20884  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20885  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20886  export t1=`expr ${t0} + 200`;
20887  export t3=`expr ${t2} + 400`;
20888  export N2=${N1}
20889  for testname in sawa eguti ; do
20890  if [ "${testname}" = "sawa" ] ; then trainname=eguti ] ; then trainn
ame=sawa ;fi
20891  echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tc:${t0}:${t1}
:${t2}:${t3}"
20892  echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:${
t1}:${t2}:${t3}
20893  done
20894
20895  rm -rf tmp;export T=100 N1=32 method=poles4 t0=1500 toffset=1000 t2=2000 #OK
20896  export t1=`expr ${t0} + 200`;
20897  export t3=`expr ${t2} + 400`;
20898  export N2=${N1}
20899  for testname in sawa eguti ; do
20900  if [ "${testname}" = "sawa" ] ; then trainname=eguti ] ; then trainn
ame=sawa ;fi
20901  echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tc:${t0}:${t1}
:${t2}:${t3}"
20902  echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:${
t1}:${t2}:${t3}
20903  done
20904
20906  ??rm -rf tmp
20907  ?#
20908
20909
20910
20911
20912
20913  ??export t0=2000 T=100 N1=32 method=direct #
20914  ??#te:eguti-aiueo is recognized as tr:sawa-oiueo via method=direct.#NG
20915  ??#te:sawa-aiueo is recognized as tr:eguti-oiueo via method=direct.#NG
20916  ?#
20917  ?#
20918  ??export t0=2000 T=100 N1=1 method=direct #
20919  ??#te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG
20920  ??#te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#OK
20921  ?#
20922  ??export t0=2000 T=100 N1=32 method=poles4
20923  ??#te:eguti-aiueo is recognized as tr:sawa-alaea via method=poles4.#
20924  ??#te:sawa-aiueo is recognized as tr:eguti-aiioi via method=poles4.#
20925  ?#
20926  ??export t0=1000 T=100 N1=32 method=poles4
20927  ??#te:eguti-aiueo is recognized as tr:sawa-alaea via method=poles4.#
20928  ??#te:sawa-aiueo is recognized as tr:eguti-aiioi via method=poles4.#
20929  ?#
20930  ??export t0=2000 T=100 N1=32 method=poles4 toffset=0
20931  ??#te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
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20932  ??#te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4. #OK
20933  ??#########
20934  ??rm -rf tmp;export t0=1500 T=100 N1=32 method=poles4 toffset=0
20935  ??#te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20936  ??#te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20937  ??#########
20938  ??export N2=${N1} ; export t1=`expr ${t0} + 200`; export t2=2000 t3=2200;
20939  ??for testname in eguti ; do
20940  ??if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trai
nname=sawa ;fi
20941  ??echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:$
{t1}:${t2}:${t3}
20942  ??done
20943  ??#OK with rzz2>1.0 || rzz2<0.3 in my_plinn.c
20944  ??
20945  ??
20946  ??rm -rf tmp;export T=100 N1=32 method=poles4 t0=2000 t2=2000 #NG
20947  ??rm -rf tmp;export T=100 N1=32 method=poles4 t0=1500 t2=2000 #OK
20948  ??export t1=`expr ${t0} + 200`;
20949  ??export t3=`expr ${t2} + 400`;
20950  ??export N2=${N1}
20951  ??for testname in sawa eguti ; do
20952  ??if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trai
nname=sawa ;fi
20953  ??echo "vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} tc:${t0}:${t3}
:${t1}:${t2}:${t3}"
20954  ??echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} ttr:${t0}:$
{t1}:${t2}:${t3}
20955  ??done
20956  ??#OK with rzz2>1.0 || rzz2<0.3 in my_plinn.c
20957  ??
20958
20959
20960  ########
20961  060110am
20962  rm -rf tmp
20963  #
20964  export t1=2000 T=100 N1=32 method=direct #
20965  #te:eguti-aiueo is recognized as tr:sawa-oiueo via method=direct.#NG
20966  #te:sawa-aiueo is recognized as tr:eguti-oiueo via method=direct.#NG
20967  #
20968  export t1=2000 T=100 N1=1 method=direct #
20969  #te:eguti-aiueo is recognized as tr:sawa-uiueo via method=direct.#NG
20970  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=direct.#OK
20971  ##
20972  export t1=1000 T=100 N1=32 method=poles4
20973  #te:eguti-aiueo is recognized as tr:sawa-alaea via method=poles4.#
20974  #te:sawa-aiueo is recognized as tr:eguti-aiioi via method=poles4.#
20975  #
20976  export t1=2000 T=100 N1=32 method=poles4
20977  #te:eguti-aiueo is recognized as tr:sawa-aiueo via method=poles4.#OK
20978  #te:sawa-aiueo is recognized as tr:eguti-aiueo via method=poles4.#OK
20979  ########
20980  export N2=${N1}
20981  for testname in sawa eguti ; do
20982  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;elif [ "${testname}" = "eguti" ] ; then trainn
ame=sawa ;fi
20983  echo n | vowelrecog te:${testname}    tr:${trainname} k:9 N:${N1}-${N2} m:${method} T:${T} t:${t1}:200
0-2200
20984  done
20985  #OK with rzz2>1.0 || rzz2<0.3 in my_plinn.c
20986
20987  060109
20988  export t1=500 T=10 N1=32; export N2=${N1}      #OK test:sawa:aiueo eguti:aiueo rzz>1.0 || rzz2<0.3
20989  echo n | vowelrecog te:sawa   tr:eguti k:9 N:${N1}-${N2} m:direct T:${T} t:${t1}:2000-2200  #N=50:oiue
o   N=1:aiueo(OK)
20990  echo n | vowelrecog te:sawa   tr:eguti k:9 N:${N1}-${N2} m:direct T:${T} t:${t1}:2000-2200  #N=50:aiue
o(OK) N=1:uiueo
20991  export feature=poles5
20992  export feature=poles6
20993  export feature=poles4
20994  for testname in sawa eguti ; do
20995  if [ "${testname}" = "sawa" ] ; then trainname=eguti ;
20996  elif [ "${testname}" = "eguti" ] ; then trainname=sawa ;
20997  fi
20998  echo "##### test:${testname} and train:${trainname} ####"
20999  for testvowel in a i u e o ; do
21000  echo "norm of poles between $(testvowel) of ${testname} and aiueo of ${trainname}"
21001  for vowel in a i u e o ; do
21002  norm_poles tmp/${testvowel}-k9NS{N1}-${N2}-${feature}.dat tmp/${vowel}-${trainname}-k9N$
{N1}-${N2}-${feature}.dat > /dev/null
21003  done
```

```
21004 done
21005 done
21006
21007 060109
21008 export t1=2000 T=10  N1=; export N2=${N1}          #NG te:sawa:aoeeo eguti:aiaea rz2>1.0 ||| rz2<0.3
21009 export t1=2000 T=10  N1=32; export N2=${N1}        #NG te:sawa:aioea eguti:aiaeo rz2>1.0 ||| rz2<0.3
21010 export t1=2000 T=100 N1=32; export N2=${N1}        #NG te:sawa:aiaoo eguti:aiuoo rz2>1.0 ||| rz2<0.3
21011 export t1=2000 T=100 N1=60; export N2=${N1}        #NG te:sawa:aiueu eguti:aiueeo rz2>1.0 ||| rz2<0.3
21012 export t1=2000 T=100 N1=; export N2=${N1}          #NG te:sawa:aieeo eguti:aiuiea rz2>1.0 ||| rz2<0.3
21013 export t1=2000 T=100 N1=32; export N2=${N1}        #OK te:sawa:aiueo eguti:aiuueo rz2>1.0 ||| rz2<0.3
21014 export t1=2000 T=100 N1=32; export N2=${N1}        #OK te:sawa:aiueo eguti:aiuo rz2>1.0 ||| rz2<0.3
21015 echo n | vowelrecog te:eguti tr:sawa  k:9 N:${N1}-${N2} m:direct T:${t1};t=${t1}:2000-2200 #N=50:oiue
      N=1-aiueo(OK)
21016 #export featurepoles5
21017 #export featurepoles6 #LSP
21018 #export featurepoles4
21019 for testname in sawa eguti ; do
21020 if [ "${testname}" = "sawa" ] ; then trainname=eguti ;
21021 elif [ "${testname}" = "eguti" ] ; then trainname=sawa ;
21022 fi
21023 echo "###### test:${testname} and train:${trainname} ###"
21024 for testvowel in a i u e o ; do
21025 echo "norm of poles a between $${testvowel} of ${testname} and aiueo of ${trainname}"
21026 for vowel in a i u e o ; do
21027 norm_poles tmp/${testvowel}-k9N${N1}-${feature}.dat tmp/${vowel}-${trainname}-k9N$
      {N1}-${N2}-${feature}.dat > /dev/null
21028 done
21029 done
21030 done
21031
21032
21033 echo n | vowelrecog te:eguti tr:sawa    k:9 N:${N1}-${N2} m:direct T:100 t:${t1}:200-220  #N=1:aiu
21034 echo n | vowelrecog te:eguti tr:sawa    k:9 N:${N1}-${N2} m:direct T:100 t:${t1}:200-220  #N=1:oiu
21035
21036 #############
21037 export N1=32  t1=2000; export N2=${N1}
21038 echo n | vowelrecog te:sawa  tr:eguti
21039 echo n | vowelrecog te:eguti tr:sawa
      eo
21040 export testname=sawa trainname=eguti feature=poles5
21041 export testname=sawa trainname=eguti feature=poles4
21042 for testvowel in a i u e o ; do
21043 echo "regogtintion of ${testvowel} of ${testname}"
21044 for vowel in a i u e o ; do
21045 norm_poles tmp/${testvowel}-k9N${N1}-${feature}.dat tmp/${vowel}-${trainname}-k9N$
      {N1}-${N2}-${feature}.dat > /dev/null
21046 #echo "norm_poles tmp/${testvowel}-k9N${N1}-${feature}.dat tmp/${vowel}-${trainnam
      e}-k9N${N1}-${N2}-${feature}.dat"
21047 done
21048 done
21049
21050 060108
21051 (1)shrink2で sawa と eguti 相互の訓練・認識が成功
21052 shrink2は次のユニットを MSBの評価に使わない
21053 発散する極(rz2>1.0)をもつ連想行列をもつユニット
21054 減衰が大きい極(rz2<0.3)をもつ連想行列をもつユニット
21055 ユニット数は N:50-50 以上が必要のようだ。
21056 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:2000:2000-2200 #aiueo OK ??
21057 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:2000:2000-2200 #oiueo NG
21058
21059 echo n | vowelrecog te:eguti tr:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #uiueo NG
      .0 || rz2<0.3 OK
21060 echo n | vowelrecog te:eguti tr:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #aiueo OK
21061 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:2000:2000-2200 #aiueo OK ??
      .0 || rz2<0.3 NG
21062 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:2000:2000-2200 #oiooo rz2>1
21063 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:1500:1500-1700 #oiueo NG
21064
21065 echo n | vowelrecog te:eguti tr:sawa    k:9 N:50-50 m:shrink2 T:100 t:2000:2000-2200 #aiueo rz2>1
      .0 || rz2<0.3 OK
21066 echo n | vowelrecog te:eguti tr:sawa    k:9 N:50-50 m:shrink2 T:100 t:1500:1500-1700 #uiueo NG
21067
21068 echo n | vowelrecog te:eguti tr:sawa    k:9 N:60-60 m:direct T:100 t:1500:1500-1700 #aiueo OK
21069 echo n | vowelrecog te:eguti tr:sawa    k:9 N:60-60 m:direct T:100 t:1500:1500-1700 #oiueo NG
21070
21071
21072 echo n | vowelrecog te:eguti tr:sawa    k:9 N:50-50 m:shrink2 T:100 t:1500:1500-1700 #aiueo rz2>1
      .0 || rz2<0.3 OK
21073 echo n | vowelrecog te:eguti tr:sawa    k:9 N:50-50 m:shrink2 T:100 t:1500:1500-1700 #eiooo rz2>1
      .0 || rz2<0.3 NG
21074
```

```
21075 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:70-70 m:shrink2 T:100 t:3000:3000-3200 #eiueo NG rz
2>1.0 || rz2<0.3
21076 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:70-70 m:shrink2 T:100 t:4000:3000-3200 #oiueo NG rz
2>1.0 || rz2<0.3
21077 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:60-60 m:shrink2 T:100 t:4000:3000-3200 #ouueo NG rz
2>1.0 || rz2<0.3
21078
21079 060106
21080 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #aiueo OK
21081 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiuoo NG
21082 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiuuo NG
21083 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:1-32 m:direct T:100 t:1500:1500-1700 #oiueo NG
21084 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:60-60 m:direct T:100 t:1500:1500-1700 #oiueo NG
21085 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:30-60 m:direct T:100 t:1500:1500-1700 #aaaaa NG
21086 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:30-50 m:direct T:100 t:1500:1500-1700 #aiuoo NG
21087 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:30-60 m:direct T:100 t:1500:1500-1700 #aiuoo NG
21088 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:60-60 m:direct T:100 t:1500:1500-1700 #oiueo NG
21089 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:70-70 m:shrink2 T:100 t:1500:1500-1700 #aioeo rz2>1
.0 NG
21090 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:70-70 m:shrink2 T:100 t:1500:1500-1700 #aioee rz2>1
.0 || rz2<0.5 NG
21091 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:70-70 m:shrink2 T:100 t:1500:1500-1700 #aiueo rz2>1
.0 || rz2<0.3 OK
21092 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #aioee rz2>1
.0 || rz2<0.3 NG
21093 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:40-40 m:shrink2 T:100 t:1500:1500-1700 #aioaa rz2>1
.0 || rz2<0.3 NG
21094 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:50-50 m:shrink2 T:100 t:1500:1500-1700 #aiueo rz2>1
.0 || rz2<0.3 OK
21095 echo n | vowelrecog tr:sawa  te:eguti    k:9 N:50-50 m:shrink2 T:100 t:1500:1500-1700 #aiueo rz2>1
.0 || rz2<0.3 OK
21096
21097 echo n | vowelrecog te:eguti te:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #uiueo NG
21098 echo n | vowelrecog te:eguti te:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #aiueo OK
21099 echo n | vowelrecog te:eguti te:sawa    k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiueo NG
21100 echo n | vowelrecog te:eguti te:sawa    k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiueo NG
21101 echo n | vowelrecog te:eguti te:sawa    k:9 N:60-60 m:direct T:100 t:1500:1500-1700 #aiueo OK
21102
21103
21104 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:1000:1500-1700 #aiueo
21105 echo n | vowelrecog te:eguti tr:sawa:eguti  k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #aiueo
21106 echo n | vowelrecog te:eguti tr:sawa:eguti  k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiuoo
21107 echo n | vowelrecog te:eguti tr:sawa:eguti  k:9 N:32-32 m:shrink2 T:100 t:1500:1500-1700 #oiuoo
21108 echo n | vowelrecog te:eguti tr:sawa:eguti  k:9 N:1-1 m:shrink2 T:100 t:1500:1500-1700 #uiueo
21109 echo n | vowelrecog te:eguti tr:sawa:eguti  k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #oiueo
21110
21111 echo n | vowelrecog te:eguti tr:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #aiueo
21112 echo n | vowelrecog te:eguti tr:eguti:sawa  k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #oiueo
21113 echo n | vowelrecog te:eguti tr:sawa    k:9 N:1-1 m:direct T:100 t:1500:1500-1700 #oiueo
21114 echo n | vowelrecog te:eguti tr:sawa    k:9 N:32-32 m:direct T:100 t:1500:1500-1700 #oiueo
21115 echo n | vowelrecog te:sawa  tr:eguti    k:9 N:50-50 m:direct T:100 t:1500:1500-1700 #oiueo
21116 echo n | vowelrecog te:eguti tr:sawa    k:9 N:50-50 m:direct T:100 t:1500:1500-1700 #oiueo
21117
21118 ##################
21119 export testname=sawa  trainname=eguti feature=M1
21120 export testname=sawa  trainname=eguti feature=thetal
21121 export testname=sawa  trainname=eguti feature=poles5
21122 export testname=sawa  trainname=eguti feature=poles4
21123 export N1=1 N2=${N1};
21124 for testvowel in a i u e o ; do
21125 echo "regogtintion of ${testvowel} of ${testname}"
21126 for vowel in a i u e o ; do
21127 norm_vecs tmp/${testvowel}-k9N${N1}-${testname}-k9N${N1}-${N2}-${feature}.dat tmp/${vowel}-${trainname}-k9N$
{N1}-${N2}-${feature}.dat > /dev/null
21128 #echo "norm_vecs tmp/${testvowel}-${testname}-k9N${N1}-${feature}.dat tmp/${vowel}-${trainname}
}-k9N${N1}-${N2}-${feature}.dat"
21129 done
21130 done
21131 ##################
21132 export testname=sawa  trainname=eguti
21133 export testname=sawa  trainname=eguti
21134 for testvowel in a i u e o ; do
21135 echo "recogtintion of aiueo of ${testname}"
21136 for vowel in a i u e o ; do
21137 N1=i;N2=i;pred2y_ts tmp/${testvowel}-${testname}-k9N${N1}-${N2}-theta1.dat tmp/${vowel}-${trainname}
-k9N${N1}-${N2}-theta1.dat > /dev/null
21138 done
21139 done
21140 ##################
21141
21142
21143
```

```
21144 vowelrecog te:sawa    tr:sawa    k:9 N:32-32 m:direct  T:100 t:1500:2000-2200 #aiueo
21145 vowelrecog tr:sawa    te:sawa    k:9 N:32-32 m:direct  T:100 t:1500:2000-2200 #aiueo
21146
21147 vowelrecog te:sawa    tr:sawa    k:9 N:32-32 m:shrink2 T:100 t:1500:3000-3200 #aiueo
21148 vowelrecog te:sawa    tr:sawa    k:9 N:32-32 m:shrink2 T:100 t:1500:3000-3200 #aiueo
21149
21150
21151 vowelrecog te:eguti              k:9 N:60-60 m:shrink2 T:100 t:3000-3200 #aiuoo
21152
21153 vowelrecog tr:eguti   te:eguti   k:9 N:32-32 m:direct  T:100 t:200-400 #oiueo
21154 vowelrecog te:eguti   tr:eguti   k:9 N:32-32 m:direct  T:100 t:200-400 #oiueo
21155 vowelrecog te:eguti   tr:eguti   k:9 N:32-32 m:shrink2 T:100 t:2000-2200 #aiuoo
21156 vowelrecog te:eguti   tr:eguti   k:9 N:32-32 m:shrink2 T:100 t:2000-2200 #aiueo
21157
21158
21159 vowelrecog te:sawa    tr:eguti   k:9 N:1-1 m:direct T:100 t:2000-2200 #aiueo
21160 vowelrecog tr:sawa    te:eguti   k:9 N:1-1 m:direct T:100 t:2000-2200 #aiueo
21161 for vowel in a i u e o ; do
21162 pred2y_ts tmp/a-sawa-k9N32-32-M1.dat tmp/${vowel}-eguti-k9N32-32-M1.dat > /dev/null
21163 done
21164
21165 for vowel in a i u e o ; do
21166 pred2y_ts tmp/a-sawa-k9N32-32-thetal.dat tmp/${vowel}-eguti-k9N32-32-thetal.dat > /dev/null
21167 done
21168
21169 060103
21170 (1) z(t)=y(t)-y(t-1)を作る。 dytimeseries.c
21171 for name in eguti sawa ; do
21172 for vowel in a i u e o ; do
21173 dytimeseries ../data/dy-${name}-${vowel}.dat > ../data/d2y-${name}-${vowel}.dat ;
21174 echo "../data/dy-${name}-${vowel}.dat" ;
21175 done
21176 done
21177
21178 for name in eguti sawa ; do
21179 for vowel in a i u e o ; do
21180 dytimeseries ../data/${name}-${vowel}.dat > ../data/dy-${name}-${vowel}.dat ;
21181 echo "../data/dy-${name}-${vowel}.dat" ;
21182 done ;
21183 done
21184
21185
21186 if(net[nl].cell[nl].am.M[0][k]>0.001) {NG=1; break;} in my_plinn.c
21187
21188 vowelrecog te:dy-eguti tr:dy-sawa  k:9 N:32-32 m:shrink1 T:100 t:2000-2200 #oiuoo
21189 vowelrecog te:dy-eguti tr:dy-sawa  k:9 N:32-32 m:shrink1 T:100 t:2000-2200 #eiaeo
21190
21191 vowelrecog te:dy-eguti tr:d2y-sawa k:9 N:32-32 m:direct T:100 t:2000-2200 #aiaao
21192 vowelrecog te:dy-sawa  tr:d2y-sawa k:9 N:32-32 m:direct T:100 t:2000-2200 #aiueo
21193
21194 vowelrecog te:dy-eguti tr:dy-eguti k:9 N:32-32 m:direct T:100 t:2000-2200 #aiueo
21195 vowelrecog te:dy-sawa  tr:dy-eguti k:9 N:32-34 m:direct T:100 t:2000-2200 #oiueo
21196
21197 vowelrecog te:eguti   tr:sawa     k:9 N:32-32 m:direct T:100 t:2000-2200 #aiueo
21198 vowelrecog te:sawa    tr:eguti    k:9 N:32-32 m:direct T:100 t:2000-2200 #oiueo
21199
21200 vowelrecog te:d2y-eguti tr:d2y-sawa  k:9 N:1-1 m:direct T:100 t:2000-2200 #uiaeo
21201 vowelrecog te:d2y-sawa  tr:d2y-eguti k:9 N:1-1 m:direct T:100 t:2000-2200 #aiaeo
21202
21203 vowelrecog te:dy-eguti tr:dy-sawa  k:9 N:1-1 m:direct T:100 t:2000-2200 #uiueo
21204 vowelrecog te:dy-sawa  tr:dy-eguti k:9 N:1-1 m:direct T:100 t:2000-2200 #aiaeo
21205
21206 vowelrecog te:eguti   tr:sawa     k:9 N:1-1 m:direct T:100 t:2000-2200 #aiueo
21207 vowelrecog te:sawa    tr:eguti    k:9 N:1-1 m:direct T:100 t:2000-2200 #aiueo
21208
21209 vowelrecog te:dy-eguti tr:sawa    k:9 N:1-1 m:shrink1 T:100 t:2000-2200 #oeueo
21210
21211 051227
21212 母音認識
21213
21214 051226
21215 (1) 認識？ pM=pMc bestssp.net
21216 make vowelrecog
21217 vowelrecog te:sawa tr:eguti k:9 N:1-1 T:100 t:2000-2200
21218 vowelrecog te:eguti tr:sawa k:9 N:1-1 T:100 t:2000-2200
21219 vowelrecog te:eguti tr:sawa k:9 N:32-34 T:100 t:2000-2200
21220 vowelrecog te:dy-eguti tr:dy-sawa k:9 N:1-1 m:direct T:100 t:2000-2200 #u,i,u,e,o
21221 vowelrecog te:dy-sawa  tr:dy-eguti k:9 N:32-34 m:direct T:100 t:2000-2200 #o,i,o,o
21222
21223 vowelrecog te:eguti tr:sawa k:9 N:1-1 m:direct T:100 t:2000-2200 #i,i,u,e,o
21224 vowelrecog te:sawa tr:eguti k:9 N:1-1 m:direct T:100 t:2000-2200 #a,i,u,e,o
21225
```

```
21226 vowelrecog tr:eguti te:sawa k:9 N:32-34 m:direct T:100 t:2000-2200 #o,i,u,e,o
21227 vowelrecog tr:sawa te:eguti k:9 N:32-34 m:direct T:100 t:2000-2200 #o,i,u,e,o
21228
21229 ##############＃##### Execute from here.
21230 export K=12
21231 export K=8
21232 export K=9
21233 export N1=2 N2=2
21234 export N1=32 N2=34
21235 export N1=1 N2=1
21236 export N1=32 N2=34
21237 export pM=pMm
21238 export pM=pMs # shrink the net
21239 export method=mspE
21240 export method=mspe
21241 export msp=msp
21242
21243 ###
21244 ####
21245 for onsei in a i u e o; do
21246 export ens= #
21247 for name in eguti sawa ; do
21248 #for name in eguti ; do
21249 dname=${name}-${onsei}
21250 dn_timeseries=./data/${dname}.dat
21251 dn_regression=./tmp/${dname}-rg.dat
21252 ###
21253 cat >param.dat << EOF   #save parameters
21254            #0:timeseries,1:chaos prepare_data() in my_function.c
21255 ${K} 0   #channels
21256 ${dn_timeseries} #training file
21257 ${t1} ${t2}     #Ttrain,Ttotal: points in time of training and total data
21258 0 0 0 0        #y0min y0max y1min y1max for normalization
21259 qu
21260 EOF
21261 ###各ユニット数について学習
21262 ./can2 <param.dat
21263 cp tmp/train+test.dat ${dn_regression}
21264 ###############
21265 export N=${N1}
21266 while [ ${N} -le ${N2} ] ; do
21267 file=tmp/best${msp}-${dname}-K${K}N${N}.net
21268 predfile=tmp/predictN${N}.dat
21269 if [ -e ${file} ] ; then
21270 echo ${file} exists. Omit calculation. ##既に学習
21271 else
21272 ###
21273 cat > param.dat << EOF
21274            #0:timeseries,1:chaos prepare_data() in my_function.c
21275 ${K} 0    #channels
21276 ${dn_timeseries}
21277 ${t1} ${t2}    #Ttrain,Ttotal: points in time of training and total data
21278 0 0 0 0       #y0min y0max y1min y1max for normalization
21279 in           #n_cells storing vectors
21280 ${N}          #n_compare
21281 20           #v_thresh v_min
21282 0.5  3        #v_ratio
21283 10           #width  window width
21284 0.2          #width  window width
21285 ex           #execute
21286 1 5e-3 0.7  #i=0:online,i=1:batch, gamma0, entropy_thresh
21287 100          #iterations to execute
21288 0 0 0 0     #Ttrain,Ttotal: points in time of training and total data
21289 quit         #display
21290 EOF
21291 echo "Executing can2 for N=${N}"
21292 echo "---the following are param.dat---"
21293 cat param.dat
21294 echo "---the above are in param.dat---"
21295 can2 < param.dat
21296 cp best${msp}.net ${file}
21297 cp predict.dat ${predfile}
21298 ###
21299 fi
21300 export ens=$ens" "${file}
21301 N=`expr ${N} + 1`
21302 done #closing of while [ ${N} -le ${N2} ] ; do
21303 done #closing of for name
21304
21305 ###アンサンブル想起の実行
21306 cat > param.dat << EOF
21307 0            #0:timeseries,1:chaos prepare_data() in my_function.c
```

```
21308  ${K} 0    #channels
21309  ${dn_timeseries}
21310  ${t1} ${t2}
21311  0 0 0 0        #Ttrain,Ttotal: points in time of training and total data
21312  nls            #y0min y0max ylmin ylmax for normalization
21313  ${ens}
21314  ${method}
21315  ${pM}          #poles of M
21316  msp
21317  qu
21318  EOF
21319  echo "---the following are param.dat---"
21320  cat param.dat
21321  echo "---the above are in param.dat---"
21322  ./can2 < param.dat
21323  echo "### Done can2 for ${onsei} K=${k} N=${N1}-${N2}"
21324  pfile=tmp/${onsei}-poles${K}N${N1}-${N2}.dat
21325  pfile2=tmp/${onsei}-poles2K${K}N${N1}-${N2}.dat
21326  pfile3=tmp/${onsei}-poles3K${K}N${N1}-${N2}.dat
21327  echo "cp tmp/poles.dat ${pfile}"
21328  cp tmp/poles.dat ${pfile}
21329  cp tmp/poles2.dat ${pfile2}
21330  cp tmp/poles3.dat ${pfile3}
21331  done
21332  #closing of for onsei
21333  ############### Execute to here.
21334  ###############
21335
21336
21337
21338
21339
21340
21341  ############### Execute from here.
21342  cd tmp;
21343  #plot [-0.1:4] "eguti-a-poles3K9N32-32.dat" using 4:3 w impulses
21344  export K=8 N=1-1 poles=poles3 title="LSP"
21345  export K=12 N=1-1 poles=poles title="Poles of LPC"
21346  export K=12 N=1-1 poles=poles3 title="LSP"
21347  export K=9 N=2-2 poles=poles title="Poles of LPC"
21348  export K=9 N=32-34 poles=poles3 title="LSP"
21349  export K=8 N=1-1 poles=poles title="Poles of LPC"
21350  export K=9 N=1-1 poles=poles3 title="LSP"
21351  export K=9 N=1-1 poles=poles title="Poles of LPC"
21352  export K=9 N=32-34 poles=poles title="Poles of LPC"
21353
21354  export fbody=_aiueo_K${K}N${N}${poles}
21355  cat > mkfigs.gpl <<EOF
21356  set title "${title}"
21357  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21358  #set terminal x11; set pointsize 2;xl=0.1;x2=0.1;y1=0.1;y2=0.1;y3=0.1;idd=0.8;set size square;
21359  set terminal tgif; set output "${fbody}.obj"; set pointsize 0.5;xl=0.1;x2=0.1;y1=0.1;y2=0.4;y3=0.7;d
d=0.4;
21360  set size square dd,dd; set rmargin 0; set lmargin 0; set tmargin 0; set bmargin 0;
21361  set multiplot
21362  EOF
21363  for F in a i u e o aiueo ; do
21364  if [ "${F}" = "a" ] ; then pos="x1,y3";
21365  elif [ "${F}" = "i" ] ; then pos="x2,y3";
21366  elif [ "${F}" = "u" ] ; then pos="x1,y2";
21367  elif [ "${F}" = "e" ] ; then pos="x2,y2";
21368  elif [ "${F}" = "o" ] ; then pos="x1,y1";
21369  elif [ "${F}" = "aiueo" ] ; then pos="x2,y1";
21370  fi
21371  if [ "${F}" != "aiueo" ] ; then
21372  cat >> mkfigs.gpl <<EOF
21373  set origin ${pos};
21374  plot [0:2*pi][-2:2][-2:2] \\
21375  "a-${poles}K${K}N${N}.dat" using 1:2 t "a-K${K}N${N}" w p 1, \\
21376  cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21377  EOF
21378  else
21379  cat >> mkfigs.gpl <<EOF
21380  set origin ${pos};
21381  plot [0:2*pi][-2:2][-2:2] \\
21382  "a-${poles}K${K}N${N}.dat" using 1:2 t "a-K${K}N${N}" w p 1, \\
21383  "i-${poles}K${K}N${N}.dat" using 1:2 t "i-K${K}N${N}" w p 2, \\
21384  "u-${poles}K${K}N${N}.dat" using 1:2 t "u-K${K}N${N}" w p 3, \\
21385  "e-${poles}K${K}N${N}.dat" using 1:2 t "e-K${K}N${N}" w p 4, \\
21386  "o-${poles}K${K}N${N}.dat" using 1:2 t "o-K${K}N${N}" w p 5, \\
21387  "o-${poles}K${K}N${N}.dat" using 1:2 t "o-K${K}N${N}" w p 5, \\
```

```
21388  cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21389  unset multiplot
21390  quit
21391  EOF
21392  fi
21393  done
21394  cat mkfigs.gpl
21395  gnuplot < mkfigs.gpl
21396  tgif ${fbody}.obj; gv ${fbody}.eps&
21397  #tgif -print -eps -color -dontcondense -a4 ${fbody}.obj ; gv ${fbody}.eps &
21398  #tgif -print -eps -gif ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps.eps &
21399  #tgif -print -gif -a4 ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps ; gv ${fbody}.ep
s &
21400  #lpr ${fbody}.eps;
21401
21402  ############### Execute to here.
21403
21404
21405
21406
21407
21408  051220
21409  (1)051218をアンサンブルでやってみる
21410  ############### Execute from here.
21411
21412  export K=12
21413  export K=8
21414  export K=9
21415  export N1=2 N2=2
21416  export N1=32 N2=34
21417  export N1=1 N2=1
21418  export N1=32 N2=32
21419  export pM=pMm
21420  export pM=pM
21421  export method=mspE
21422  export method=mspe
21423
21424  export T=100 g5e-3 t1=2000 t2=2200
21425
21426  for name in eguti sawa ; do
21427  for onsei in a i u e o; do
21428  dname=${name}-${onsei}
21429  dn_timeseries=./data/${dname}.dat
21430  dn_regression=./tmp/${dname}-rg.dat
21431  ###
21432  cat >param.dat << EOF   #save parameters
21433  0                       #0:timeseries,1:chaos prepare_data() in my_function.c
21434  ${K} 0          #channels
21435  ${dn_timeseries} #training file
21436  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
21437  0 0 0 0          #y0min y0max ylmin ylmax for normalization
21438  qu
21439  EOF
21440  ###各ユニット数について学習
21441  ./can2 <param.dat
21442  cp tmp/train+test.dat ${dn_regression}
21443  ###############
21444  export N=${N1} ens= #
21445  while [ ${N} -le ${N2} ] ; do
21446  file=tmp/bestmsp-${dname}-K${K}N${N}.net
21447  predfile=tmp/predictN${N}.dat
21448  if [ -e ${file} ] ; then
21449  echo ${file} exists. Omit calculation. ##既に学習
21450  else
21451  ###
21452  cat > param.dat << EOF
21453  0                       #0:timeseries,1:chaos prepare_data() in my_function.c
21454  ${K} 0          #channels
21455  ${dn_timeseries}
21456  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
21457  0 0 0 0          #y0min y0max ylmin ylmax for normalization
21458  in                      #n_cells storing vectors
21459  ${N}
21460  20                      #n_compare
21461  0.5 3                   #v_thresh v_min
21462  10                      #v_ratio
21463  0.2                     #width      window width
21464  ex                      #execute
21465  1.5e-3 0.7 #i=0:online,i=1:batch, gamma0, entropy_thresh
21466  100                     #iterations to execute
21467  10                      #display
21468  quit
```

```
21469 EOF
21470 echo "Executing can2 for N=${N}"
21471 echo "---the following are param.dat---"
21472 cat param.dat
21473 echo "---the above are in param.dat---"
21474 can2 < param.dat
21475 cp bestmsp.net ${file}
21476 cp predict.dat ${predfile}
21477 ##
21478 fi
21479 export ens=$ens" "${file}
21480 N=`expr ${N} + 1`
21481 done
21482 ###アンサンブル想起の実行
21483 cat > param.dat << EOF
21484 0        #0:timeseries,1:chaos prepare_data() in my_function.c
21485 ${K} 0    #channels
21486 ${dn.timeseries}
21487 ${t1} ${t2}         #Ttrain,Ttotal: points in time of training and total data
21488 0 0 0 0    #y0min y0max y1min y1max for normalization
21489 nls
21490 ${ens}
21491 ${method}      #poles of M
21492 ${pM}
21493 gu
21494 EOF
21495 echo "---the following are param.dat---"
21496 cat param.dat
21497 echo "---the above are in param.dat---"
21498 ./can2 < param.dat
21499 echo "### Done can2 for ${dname} K=${K} N=${N1}-${N2}"
21500 pfile=tmp/${dname}-poles${K}N${N1}-${N2}.dat
21501 pfile1=tmp/${dname}-poles2K${K}N${N1}-${N2}.dat
21502 pfile3=tmp/${dname}-poles3K${K}N${N1}-${N2}.dat
21503 cp tmp/poles.dat ${pfile}
21504 cp tmp/poles2.dat ${pfile2}
21505 cp tmp/poles3.dat ${pfile3}
21506 done
21507 EOF
21508 echo "---the following are param.dat---"
21509 ##############   Execute to here.
21510 >>MSE---:1.002517e+03 NMSE---:9.914155e-01eguti-a K=8 N=1-1
21511 >>MSE---:1.960590e+03 NMSE---:7.403248e-01eguti-i K=8 N=1-1
21512 >>MSE---:3.388986e+03 NMSE---:1.013449e+00eguti-u K=8 N=1-1
21513 >>MSE---:1.122435e+03 NMSE---:9.601821e-01eguti-e K=8 N=1-1
21514 >>MSE---:1.333867e+03 NMSE---:8.874818e-01eguti-o K=8 N=1-1
21515 >>MSE---:4.649945e+01 NMSE---:8.800867e-01sawa-a K=8 N=1-1
21516 >>MSE---:1.527081e+03 NMSE---:4.944001e-01sawa-i K=8 N=1-1
21517 >>MSE---:2.461112e+03 NMSE---:2.321148e-01sawa-u K=8 N=1-1
21518 >>MSE---:2.612113e+03 NMSE---:9.798658e-01sawa-e K=8 N=1-1
21519 >>MSE---:2.403179e+03 NMSE---:9.917444e-01sawa-o K=8 N=1-1
21520 >>MSE---:1.708560e+03 NMSE---:7.813276e-01sawa-o K=8 N=1-1
21521 #>>MSE---:1.009086e+03 NMSE---:9.979119e-01eguti-a K=9 N=1
21522 #>>MSE---:1.757765e+03 NMSE---:6.637374e-01eguti-i K=9 N=1
21523 #>>MSE---:3.332717e+03 NMSE---:9.966225e-01eguti-u K=9 N=1
21524 #>>MSE---:1.337969e+03 NMSE---:8.902110e-01eguti-e K=9 N=1
21525 #>>MSE---:4.718409e+01 NMSE---:8.930044e-01sawa-a K=9 N=1
21526 #>>MSE---:1.533527e+03 NMSE---:4.964873e-01sawa-i K=9 N=1
21527 #>>MSE---:2.461112e+03 NMSE---:2.321148e-01sawa-u K=9 N=1
21528 #>>MSE---:2.195580e+03 NMSE---:9.060997e-01sawa-e K=9 N=1
21529 #>>MSE---:1.416616e+03 NMSE---:6.478209e-01sawa-o K=9 N=1
21530
21531 #>>MSE---:9.982510e+02 NMSE---:9.871970e-01eguti-a K=12 N=1-1
21532 #>>MSE---:1.119767e+03 NMSE---:4.228275e-01eguti-i K=12 N=1-1
21533 #>>MSE---:3.220792e+03 NMSE---:9.631524e-01eguti-u K=12 N=1-1
21534 #>>MSE---:1.097598e+03 NMSE---:9.389359e-01eguti-o K=12 N=1-1
21535 #>>MSE---:1.350245e+03 NMSE---:8.983787e-01eguti-o K=12 N=1-1
21536 #>>MSE---:4.602902e+01 NMSE---:8.711829e-01sawa-a K=12 N=1-1
21537 #>>MSE---:8.486471e+02 NMSE---:2.747538e-01sawa-i K=12 N=1-1
21538 #>>MSE---:2.030515e+03 NMSE---:7.616887e-01sawa-u K=12 N=1-1
21539 #>>MSE---:2.186250e+03 NMSE---:9.022493e-01sawa-e K=12 N=1-1
21540 #>>MSE---:1.004039e+03 NMSE---:4.591491e-01sawa-o K=12 N=1-1
21541
21542 # mspE:多段予測結果をアンサンブル
21543 #method=mspE>>MSE---:-3.904827e-02eguti-a K=9 N=32-34
21544 #method=mspE>>MSE---:-3.948551e+01 NMSE---:-3.904827e-02eguti-a K=9 N=32-34
21545 #method=mspE>>MSE---:-4.347914e-02eguti-i K=9 N=32-34
21546 #method=mspE>>MSE---:-1.151451e+02 NMSE---:-4.347914e-02eguti-i K=9 N=32-34
21547 #method=mspE>>MSE---:-4.536736e+02 NMSE---:-1.356675e-01eguti-u K=9 N=32-34
21548 #method=mspE>>MSE---:-7.779026e+01 NMSE---:-6.654535e-02eguti-e K=9 N=32-34
21549 #method=mspE>>MSE---:-2.975006e+01 NMSE---:-1.979405e-02eguti-o K=9 N=32-34
21550 #method=mspE>>MSE---:-1.687054e+00 NMSE---:-3.193057e-02sawa-a K=9 N=32-34
```

```
21551 #method=mspE>>MSE---:-3.904374e+02 NMSE---:1.264061e-01sawa-i K=9 N=32-34
21552 #method=mspE>>MSE---:-2.011944e+02 NMSE---:7.547223e-02sawa-u K=9 N=32-34
21553 #method=mspE>>MSE---:-4.427360e+01 NMSE---:1.827139e-02sawa-e K=9 N=32-34
21554 #method=mspE>>MSE---:-2.951536e+02 NMSE---:1.349743e-01sawa-o K=9 N=32-34
21555 # mspe: 各ステップでアンサンブルながら多段予測
21556 #method=mspe>>MSE---:9.329644e+02 NMSE---:9.226333e-01eguti-a K=9 N=32-34
21557 #method=mspe>>MSE---:1.473319e+02 NMSE---:5.563300e-02eguti-i K=9 N=32-34
21558 #method=mspe>>MSE---:4.802881e+02 NMSE---:1.436263e-01eguti-u K=9 N=32-34
21559 #method=mspe>>MSE---:1.653690e+02 NMSE---:1.414642e-01eguti-e K=9 N=32-34
21560 #method=mspe>>MSE---:3.009947e+01 NMSE---:2.002653e-02eguti-o K=9 N=32-34
21561 #method=mspe>>MSE---:1.706784e+00 NMSE---:3.230400e-02sawa-a K=9 N=32-34
21562 #method=mspe>>MSE---:3.972092e+02 NMSE---:1.285985e-01sawa-i K=9 N=32-34
21563 #method=mspe>>MSE---:2.391637e+02 NMSE---:8.971532e-02sawa-u K=9 N=32-34
21564 #method=mspe>>MSE---:6.977037e+01 NMSE---:2.879372e-02sawa-e K=9 N=32-34
21565 #method=mspe>>MSE---:3.148103e+02 NMSE---:1.439633e-01sawa-o K=9 N=32-34
21566 #(1)複数ユニット(N>1)に対する処理法は?
21567 #(2)下の結果を眺めると、1個のユニット(N=1)のCAN2で各母音毎に、特徴的な数個の極の距離を調べたらどうか無い
かで認識できそう。
21568 #ただし、従来のように分析次数K個のすべての極のうち1〜0.707位のものを使うことだろうか
21569 #候補として絶対値が1〜0.707位のものを使うことだろうか
21570 #手順:
21571 #[1]線形予測係数(CAN2のM)を求める
21572 #[2]極を求める
21573 #[2]極の絶対値が1〜0.707位のものを選択。
21574 #[3]極形予測係数がLSP(Linear Spectrum Pairs)に変換
21575 #[4]線形予測係数に逆変換
21576 #[5]必要ならLSP(Linear Spectrum Pairs)に変換
21577 #[6]係数ベクトルの内積を求める
21578
21579 ###############   Execute from here.
21580 cd tmp/
21581 #plot [-0.1:4] "eguti-a-poles3K9N32-32.dat" using 4:3 w impulses
21582 export name1=eguti name2=sawa K=8 N=1-1 poles=poles3 title="LSP"
21583 export name1=eguti name2=sawa K=12 N=1-1 poles=poles title="Poles of LPC"
21584 export name1=eguti name2=sawa K=12 N=1-1 poles=poles3 title="LSP"
21585 export name1=eguti name2=sawa K=9 N=2-2 poles=poles title="Poles of LPC"
21586 export name1=eguti name2=sawa K=9 N=32-34 poles=poles title="Poles of LPC"
21587 export name1=eguti name2=sawa K=9 N=32-34 poles=poles3 title="LSP"
21588 export name1=eguti name2=sawa K=8 N=1-1 poles=poles title="Poles of LPC"
21589 export name1=eguti name2=sawa K=9 N=1-1 poles=poles3 title="LSP"
21590
21591 export fbody=_aiueo_K${K}N${K}N${N}${poles}
21592 cat > mkfigs.gpl <<EOF
21593 set title "${title}"
21594 set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21595 #set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y2=0.1;y2=0.1;iy3=0.1,id=0,8;set size square;
21596 set terminal tgif; set output "${fbody}.obj"; set pointsize 0.5;x1=0.1;x2=0.1;y2=0.1;y3=0.7;d
d=0.4;
21597 set size square dd,dd; set rmargin 0; set lmargin 0; set tmargin 0; set bmargin 0;
21598 set multiplot
21599 EOF
21600 ####
21601 for F in a i u e o aiueo ; do
21602 if [ "${F}" = "a" ] ; then pos="x1,y3";
21603 elif [ "${F}" = "i" ] ; then pos="x2,y3";
21604 elif [ "${F}" = "u" ] ; then pos="x1,y2";
21605 elif [ "${F}" = "e" ] ; then pos="x2,y2";
21606 elif [ "${F}" = "o" ] ; then pos="x1,y1";
21607 elif [ "${F}" = "aiueo" ] ; then pos="x2,y1";
21608 fi
21609
21610 if [ "${F}" != "aiueo" ] ; then
21611 cat >> mkfigs.gpl <<EOF
21612 set origin ${pos};
21613 plot [0:2*pi][-2:2] "${name1}-${F}-${poles}K${K}N${N}.dat" using 1:2 t "a-${name1}K${K}N${N}" w p 1, \\
}", \\
21614 "${name1}-${F}-${poles}K${K}N${N}.dat" using 1:2 t "i-${name1}K${K}N${N}", \\
21615 cos(t),sin(t) w l 1, 1.0, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21616 EOF
21617 else
21618 cat >> mkfigs.gpl <<EOF
21619 set origin ${pos};
21620 plot [0:2*pi][-2:2] \\
21621 "${name1}-${F}-${poles}K${K}N${N}.dat" using 1:2 t "a-${name1}K${K}N${N}" w p 1, "${name2}-a-${poles}K${K}N${N}" w p 1, \\
21622 "${name1}-i-${poles}K${K}N${N}.dat" using 1:2 t "i-${name1}K${K}N${N}" w p 2, "${name2}-i-${poles}K${K}N${N}" w p 2, \\
21623 "${name1}-u-${poles}K${K}N${N}.dat" using 1:2 t "u-${name1}K${K}N${N}" w p 3, "${name2}-u-${poles}K${K}N${N}" w p 3, \\
21624 "${name1}-e-${poles}K${K}N${N}.dat" using 1:2 t "u-${name1}K${K}N${N}" w p 4, "${name2}-e-${poles}K${K}N${N}" w p 4, \\
```

```
21625  "${name1}-o-${poles}K${K}N${N}.dat" using 1:2 t "o-${name1}K${K}N${N}" w p 5,  "${name2}-o-${poles}K$
{K}N${N}].dat" using 1:2 t "o-${name2}K${K}N${N}" w p 5, \\
21626  cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21627  unset multiplot
21628  quit
21629  EOF
21630  fi
21631  done
21632  cat mkfigs.gpl
21633  gnuplot < mkfigs.gpl
21634  tgif ${fbody}.obj; gv ${fbody}.eps&
21635  #tgif -print -eps -color -dontcondense -a4 ${fbody}.obj ; gv ${fbody}.eps &
21636  #tgif -print -gif ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps ; gv ${fbody}.eps &
21637  #tgif -print -gif -a4 ${fbody}.obj ; convert -page A4+0+0 ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps ; gv ${fbody}.ep
s &
21638  #lpr ${fbody}.eps;
21639  done
21640  ###############  Execute to here.
21641
21642
21643
21644
21645
21646
21647
21648
21649
21650
21651
21652
21653
21654  ###############  poles3=LSP K8N1 Poles of LPC (Linear Predictive Coefficients)
21655  cd tmp;
21656  gnuplot
21657  set title "Poles of LPC"
21658  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;y3=0.1;dd=0.8;set size square;
ntsize 0.5
21659  #set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;y2=0.1;y3=0.1;dd=0.8;set size square;
21660  set terminal tgif; set output "_aiueo-K8N1.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y3=0.
7;dd=0.4;
21661  set size square dd,dd; set rmargin 0; set lmargin 0; set tmargin 0; set bmargin 0;
21662  set multiplot
21663  set origin x1,y3;
21664  plot [0:2*pi][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1", "sawa-a-polesK8N1-1.d
at" using 1:2 t "a-sawaK8N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21665  set origin x2,y3;
21666  plot [0:2*pi][-2:2] "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1", "sawa-i-polesK8N1-1.d
at" using 1:2 t "i-sawaK8N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21667  set origin x1,y2;
21668  plot [0:2*pi][-2:2] "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1", "sawa-u-polesK8N1-1.d
at" using 1:2 t "u-sawaK8N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21669  set origin x2,y2;
21670  plot [0:2*pi][-2:2] "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1", "sawa-e-polesK8N1-1.d
at" using 1:2 t "e-sawaK8N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21671  set origin x1,y1;
21672  plot [0:2*pi][-2:2] "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1", "sawa-o-polesK8N1-1.d
at" using 1:2 t "o-sawaK8N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21673  set origin x2,y1;
21674  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21675  plot [0:2*pi][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1" w p 1, "sawa-a-polesK8
N1-1.dat" using 1:2 t "a-sawaK8N1" w p 1, \\
21676  plot [0:2*pi][-2:2] "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1" w p 2, "sawa-i-polesK8N1-1.d
awaK8N1" w p 2, \\
21677  "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1" w p 3, "sawa-u-polesK8N1-1.d
awaK8N1" w p 3, \\
21678  "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1" w p 4, "sawa-e-polesK8N1-1.d
awaK8N1" w p 4, \\
21679  "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1" w p 5, "sawa-o-polesK8N1-1.d
awaK8N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21680  unset multiplot
21681  quit
21682  EOF
21683  #for F in a i u e o aiueo ; do
21684  for F in aiueo ; do
21685  fbody=_${F}-K8N1;
21686  tgif -print -eps -color -dontcondense -a4 ${fbody}.obj ; gv ${fbody}.eps &
21687  #tgif -print -gif ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps ; gv ${fbody}.eps &
21688  #lpr ${fbody}.eps;
21689  done
21690  ###############
21691
```

```
21692  ###############  poles=LCP K9N1 Poles of LPC (Linear Predictive Coefficients)
21693  cd tmp;
21694  gnuplot
21695  set title "Poles of LPC"
21696  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set poi
ntsize 0.5
21697  #set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;y2=0.1;y3=0.1;dd=0.8;set size square;
21698  set terminal tgif; set output "_aiueo-K9N1.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y3=0.
7;dd=0.4;
21699  set size square dd,dd; set rmargin 0; set lmargin 0; set tmargin 0; set bmargin 0;
21700  set multiplot
21701  set origin x1,y3;
21702  plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1", "sawa-a-polesK9N1-1.d
at" using 1:2 t "a-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21703  set origin x2,y3;
21704  plot [0:2*pi][-2:2] "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1", "sawa-i-polesK9N1-1.d
at" using 1:2 t "i-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21705  set origin x1,y2;
21706  plot [0:2*pi][-2:2] "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1", "sawa-u-polesK9N1-1.d
at" using 1:2 t "u-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21707  set origin x2,y2;
21708  plot [0:2*pi][-2:2] "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1", "sawa-e-polesK9N1-1.d
at" using 1:2 t "e-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21709  set origin x1,y1;
21710  plot [0:2*pi][-2:2] "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1", "sawa-o-polesK9N1-1.d
at" using 1:2 t "o-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21711  set origin x2,y1;
21712  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21713  plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1" w p 1, "sawa-a-polesK9
N1-1.dat" using 1:2 t "a-sawaK9N1" w p 1, \\
21714  "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1" w p 2, "sawa-i-polesK9N1-1.dat" using 1:2 t "i-s
awaK9N1" w p 2, \\
21715  "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1" w p 3, "sawa-u-polesK9N1-1.dat" using 1:2 t "u-s
awaK9N1" w p 3, \\
21716  "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1" w p 4, "sawa-e-polesK9N1-1.dat" using 1:2 t "e-s
awaK9N1" w p 4, \\
21717  "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1" w p 5, "sawa-o-polesK9N1-1.dat" using 1:2 t "o-s
awaK9N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21718  unset multiplot
21719  quit
21720  EOF
21721  #for F in a i u e o aiueo ; do
21722  for F in aiueo ; do
21723  fbody=_${F}-K9N1;
21724  tgif -print -eps -color -dontcondense -a4 ${fbody}.obj ; gv ${fbody}.eps &
21725  #tgif -print -gif ${fbody}.obj ; convert -page A4+0+0 ${fbody}.gif ${fbody}.eps ;
21726  #lpr ${fbody}.eps;
21727  done
21728  ###############
21729
21730  ###############  poles=LSP K9N1 Poles of LPC (Linear Predictive Coefficients)
21731  cd tmp;
21732  gnuplot
21733  set title "Poles of LPC"
21734  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set poi
ntsize 0.5
21735  #set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;y3=0.1;y2=0.1;dd=0.8;set size square;
21736  set terminal tgif; set output "_aiueo-K9N1.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y3=0.
7;dd=0.4;
21737  set size square dd,dd; set rmargin 0; set lmargin 0; set tmargin 0; set bmargin 0;
21738  set multiplot
21739  set origin x1,y3;
21740  plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1", "sawa-a-polesK9N1-1.d
at" using 1:2 t "a-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21741  set origin x2,y3;
21742  plot [0:2*pi][-2:2] "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1", "sawa-i-polesK9N1-1.d
at" using 1:2 t "i-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21743  set origin x1,y2;
21744  plot [0:2*pi][-2:2] "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1", "sawa-u-polesK9N1-1.d
at" using 1:2 t "u-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21745  set origin x2,y2;
21746  plot [0:2*pi][-2:2] "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1", "sawa-e-polesK9N1-1.d
at" using 1:2 t "e-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21747  set origin x1,y1;
21748  plot [0:2*pi][-2:2] "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1", "sawa-o-polesK9N1-1.d
at" using 1:2 t "o-sawaK9N1", cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21749  set origin x2,y1;
21750  set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21751  plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1" w p 1, "sawa-a-polesK9
N1-1.dat" using 1:2 t "a-sawaK9N1" w p 1, \\
```

```
21752   "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1" w p 2, "sawa-i-polesK9N1-1.dat" using 1:2 t "i-s
awaK9N1" w p 2, \
21753   "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1" w p 3, "sawa-u-polesK9N1-1.dat" using 1:2 t "u-s
awaK9N1" w p 3, \
21754   "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1" w p 4, "sawa-e-polesK9N1-1.dat" using 1:2 t "e-s
awaK9N1" w p 4, \
21755   "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1" w p 5, "sawa-o-polesK9N1-1.dat" using 1:2 t "o-s
awaK9N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21756   unset multiplot
21757   quit
21758   EOF
21759   #for F in a i u e o aiueo ; do
21760   for F in aiueo ; do
21761   fbody=_${F}-K9N1;
21762   tgif -print -eps -color -dontcondense -a4 ${fbody}.obj ; gv ${fbody}.eps &
21763   #tgif -print -gif ${fbody}.obj ; convert ${fbody}.gif ${fbody}.eps ; gv ${fbody}.eps &
21764   #lpr ${fbody}.eps;
21765   done
21766   ###########
21767
21768   ###################################################
21769   ###################################################
21770   ############# poles3=LSP K8N1 Poles of LPC (Linear Predictive Coefficients)
21771   cd tmp; gnuplot
21772   set title "Poles of LPC"
21773   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21774   set terminal tgif; set output "_aiueo-K8N1-LSP.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y
3=0.7;dd=0.4;
21775   set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;y2=0.6;y1=0.1;y3=0.1;dd=0.8;set size square;
21776   set size square dd,dd; set rmargin 0; set lmargin 0; set bmargin 0;
21777   set multiplot
21778   set origin x1,y3;
21779   plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1", "sawa-a-polesK8N1-1.d
at" using 1:2 t "a-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21780   set origin x2,y3;
21781   plot [0:2*pi][-2:2][-2:2] "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1", "sawa-i-polesK8N1-1.d
at" using 1:2 t "i-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21782   set origin x1,y2;
21783   plot [0:2*pi][-2:2][-2:2] "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1", "sawa-u-polesK8N1-1.d
at" using 1:2 t "u-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21784   set origin x2,y2;
21785   plot [0:2*pi][-2:2][-2:2] "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1", "sawa-e-polesK8N1-1.d
at" using 1:2 t "e-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21786   set origin x1,y1;
21787   plot [0:2*pi][-2:2][-2:2] "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1", "sawa-o-polesK8N1-1.d
at" using 1:2 t "o-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21788   set origin x2,y1;
21789   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21790   plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1" w p 1, "sawa-a-polesK8
N1-1.dat" using 1:2 t "a-sawaK8N1" w p 1, \
21791   "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1" w p 2, "sawa-i-polesK8N1-1.dat" using 1:2 t "i-s
awaK8N1" w p 2, \
21792   "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1" w p 3, "sawa-u-polesK8N1-1.dat" using 1:2 t "u-s
awaK8N1" w p 3, \
21793   "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1" w p 4, "sawa-e-polesK8N1-1.dat" using 1:2 t "e-s
awaK8N1" w p 4, \
21794   "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1" w p 5, "sawa-o-polesK8N1-1.dat" using 1:2 t "o-s
awaK8N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21795   unset multiplot
21796   quit
21797   #上の結果を眺めると、各母音毎に、特徴的な数個の極の付近に極が有るか無いかで認識できる。
21798   #ただし、従来のように分析次数K個のすべての極の距離を調べたらどうだ？!
21799   #for F in a i u e o aiueo ; do
21800   for F in aiueo ; do
21801   fbody=_${F}-K8N1;
21802   tgif -print -eps -color ${fbody}.obj ;
21803   tgif -print -gif ${fbody}.obj ; convert ${fbody}.gif ${fbody}.eps ;
21804   #lpr ${fbody}.eps;
21805   gv ${fbody}.eps &
21806   done
21807   ###########
21808   ###################################
21809   ############# poles3-LSP K8N1
21810   cd tmp; gnuplot
21811   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21812   set terminal x11; set pointsize 2;x1=0.1;x2=0.1;y1=0.1;dd=0.1;dd=0.8;set size square;
21813   set terminal tgif; set output "_aiueo-K8N1-LSP.obj"; set pointsize 0.5;x1=0.1;x2=0.6;y1=0.1;y2=0.4;y
3=0.7;dd=0.4;
21814   set size square dd,dd; set rmargin 0; set lmargin 0; set bmargin 0;
```

```
21815   set multiplot
21816   set title "LSP(Linear Spectrum Pairs)"
21817   set origin x1,y3;
21818   plot [0:2*pi][-2:2][-2:2] "eguti-a-poles3K8N1-1.dat" using 1:2 t "a-egutiK8N1", "sawa-a-poles3K8N1-1
.dat" using 1:2 t "a-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21819   set origin x2,y3;
21820   plot [0:2*pi][-2:2][-2:2] "eguti-i-poles3K8N1-1.dat" using 1:2 t "i-egutiK8N1", "sawa-i-poles3K8N1-1
.dat" using 1:2 t "i-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21821   set origin x1,y2;
21822   plot [0:2*pi][-2:2][-2:2] "eguti-u-poles3K8N1-1.dat" using 1:2 t "u-egutiK8N1", "sawa-u-poles3K8N1-1
.dat" using 1:2 t "u-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21823   set origin x2,y2;
21824   plot [0:2*pi][-2:2][-2:2] "eguti-e-poles3K8N1-1.dat" using 1:2 t "e-egutiK8N1", "sawa-e-poles3K8N1-1
.dat" using 1:2 t "e-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21825   set origin x1,y1;
21826   plot [0:2*pi][-2:2][-2:2] "eguti-o-poles3K8N1-1.dat" using 1:2 t "o-egutiK8N1", "sawa-o-poles3K8N1-1
.dat" using 1:2 t "o-sawaK8N1", cos(t),sin(t) t "" w l 1 1
21827   set origin x2,y1;
21828   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21829   plot [0:2*pi][-2:2][-2:2] "eguti-a-poles3K8N1-1.dat" using 1:2 t "a-egutiK8N1" w p 1, "sawa-a-poles3
K8N1-1.dat" using 1:2 t "a-sawaK8N1" w p 1, \
21830   "eguti-i-poles3K8N1-1.dat" using 1:2 t "i-egutiK8N1" w p 2, "sawa-i-poles3K8N1-1.dat" using 1:2 t "i
-sawaK8N1" w p 2, \
21831   "eguti-u-poles3K8N1-1.dat" using 1:2 t "u-egutiK8N1" w p 3, "sawa-u-poles3K8N1-1.dat" using 1:2 t "u
-sawaK8N1" w p 3, \
21832   "eguti-e-poles3K8N1-1.dat" using 1:2 t "e-egutiK8N1" w p 4, "sawa-e-poles3K8N1-1.dat" using 1:2 t "e
-sawaK8N1" w p 4, \
21833   "eguti-o-poles3K8N1-1.dat" using 1:2 t "o-egutiK8N1" w p 5, "sawa-o-poles3K8N1-1.dat" using 1:2 t "o
-sawaK8N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21834   unset multiplot
21835   quit
21836   #上の結果を眺めると、各母音毎に、特徴的な数個の極の付近に極が有るか無いかで認識できそう。
21837   #ただし、従来のように分析次数K個のすべての極の距離を調べたらどうだ ; do
21838   #for F in a i u e o aiueo ; do
21839   for F in aiueo ; do
21840   fbody=_${F}-K8N1;
21841   #tgif -print -eps -color ${fbody}.obj ;
21842   tgif -print -gif ${fbody}.obj ; convert ${fbody}.gif ${fbody}.eps ;
21843   #lpr ${fbody}.eps;
21844   gv ${fbody}.eps &
21845   done
21846   ###################
21847
21848   ################## LSP K9N1
21849   cd tmp; gnuplot
21850   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21851   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21852   plot [0:2*pi][-2:2][-2:2] "eguti-a-poles3K9N1-1.dat" using 1:2 t "a-egutiK9N1", "sawa-a-poles3K9N1-1
.dat" using 1:2 t "a-sawaK9N1", cos(t),sin(t); set terminal X11; replot
21853   set terminal tgif; set output "_a-K9N1-LSP.obj"; replot; set terminal X11; replot
21854   plot [0:2*pi][-2:2][-2:2] "eguti-i-poles3K9N1-1.dat" using 1:2 t "i-egutiK9N1", "sawa-i-poles3K9N1-1
.dat" using 1:2 t "i-sawaK9N1", cos(t),sin(t); set terminal X11; replot
21855   set terminal tgif; set output "_i-K9N1-LSP.obj"; replot; set terminal X11; replot
21856   plot [0:2*pi][-2:2][-2:2] "eguti-u-poles3K9N1-1.dat" using 1:2 t "u-egutiK9N1", "sawa-u-poles3K9N1-1
.dat" using 1:2 t "u-sawaK9N1", cos(t),sin(t); set terminal X11; replot
21857   set terminal tgif; set output _u-K9N1-LSP.obj"; replot; set terminal X11; replot
21858   plot [0:2*pi][-2:2][-2:2] "eguti-e-poles3K9N1-1.dat" using 1:2 t "e-egutiK9N1", "sawa-e-poles3K9N1-1
.dat" using 1:2 t "e-sawaK9N1", cos(t),sin(t); set terminal X11; replot
21859   set terminal tgif; set output "_e-K9N1-LSP.obj"; replot; set terminal X11; replot
21860   plot [0:2*pi][-2:2][-2:2] "eguti-o-poles3K9N1-1.dat" using 1:2 t "o-egutiK9N1", "sawa-o-poles3K9N1-1
.dat" using 1:2 t "o-sawaK9N1", cos(t),sin(t); set terminal X11; replot
21861   set terminal tgif; set output "_o-K9N1-LSP.obj"; replot; set terminal X11; replot
21862   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21863   plot [0:2*pi][-2:2][-2:2] "eguti-a-poles3K9N1-1.dat" using 1:2 t "a-egutiK9N1" w p 1, "sawa-a-poles3
K9N1-1.dat" using 1:2 t "a-sawaK9N1" w p 1 \
21864   "eguti-i-poles3K9N1-1.dat" using 1:2 t "i-egutiK9N1" w p 2, "sawa-i-poles3K9N1-1.dat" using 1:2 t "i
-sawaK9N1" w p 2, \
21865   "eguti-u-poles3K9N1-1.dat" using 1:2 t "u-egutiK9N1" w p 3, "sawa-u-poles3K9N1-1.dat" using 1:2 t "u
-sawaK9N1" w p 3, \
21866   "eguti-e-poles3K9N1-1.dat" using 1:2 t "e-egutiK9N1" w p 4, "sawa-e-poles3K9N1-1.dat" using 1:2 t "e
-sawaK9N1" w p 4, \
21867   "eguti-o-poles3K9N1-1.dat" using 1:2 t "o-egutiK9N1" w p 5, "sawa-o-poles3K9N1-1.dat" using 1:2 t "o
-sawaK9N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21868   set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; replot
21869   quit
21870   #上の結果を眺めると、各母音毎に、特徴的な数個の極の付近に極が有るか無いかで認識できそう。
21871   #ただし、従来のように分析次数K個のすべての極の距離を調べたらどうだ？!
21872   for F in a i u e o aiueo ; do
21873   fbody=_${F}-K9N1;
```

```
21874 tgif -print -eps ${fbody}.obj ;
21875 lpr ${fbody}.eps;
21876 done
21877
21878 cd tmp; gnuplot
21879 set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21880 plot [0:2*pi][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1", "sawa-a-polesK8N1-1.d
at" using 1:2 t "a-sawaK8N1", cos(t),sin(t) t "" w l 1
21881 set terminal tgif; set output "_a-K8N1.obj"; replot; set terminal X11; replot
21882 plot [0:2*pi][-2:2] "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1", "sawa-i-polesK8N1-1.d
at" using 1:2 t "i-sawaK8N1", cos(t),sin(t) t "" w l 1
21883 set terminal tgif; set output "_i-K8N1.obj"; replot; set terminal X11; replot
21884 plot [0:2*pi][-2:2] "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1", "sawa-u-polesK8N1-1.d
at" using 1:2 t "u-sawaK8N1", cos(t),sin(t) t "" w l 1
21885 set terminal tgif; set output "_u-K8N1.obj"; replot; set terminal X11; replot
21886 plot [0:2*pi][-2:2] "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1", "sawa-e-polesK8N1-1.d
at" using 1:2 t "e-sawaK8N1", cos(t),sin(t) t "" w l 1
21887 set terminal tgif; set output "_e-K8N1.obj"; replot; set terminal X11; replot
21888 plot [0:2*pi][-2:2] "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1", "sawa-o-polesK8N1-1.d
at" using 1:2 t "o-sawaK8N1", cos(t),sin(t) t "" w l 1
21889 set terminal tgif; set output "_o-K8N1.obj"; replot; set terminal X11; replot
21890 set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21891 plot [0:2*pi][-2:2] "eguti-a-polesK8N1-1.dat" using 1:2 t "a-egutiK8N1" w p l, "sawa-a-polesK8
N1-1.dat" using 1:2 t "a-sawaK8N1" w p l, 1,0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21892 "eguti-i-polesK8N1-1.dat" using 1:2 t "i-egutiK8N1" w p 2, "sawa-i-polesK8N1-1.dat" using 1:2 t "i-s
awaK8N1" w p 2,
21893 "eguti-u-polesK8N1-1.dat" using 1:2 t "u-egutiK8N1" w p 3, "sawa-u-polesK8N1-1.dat" using 1:2 t "u-s
awaK8N1" w p 3,
21894 "eguti-e-polesK8N1-1.dat" using 1:2 t "e-egutiK8N1" w p 4, "sawa-e-polesK8N1-1.dat" using 1:2 t "e-s
awaK8N1" w p 4,
21895 "eguti-o-polesK8N1-1.dat" using 1:2 t "o-egutiK8N1" w p 5, "sawa-o-polesK8N1-1.dat" using 1:2 t "o-s
awaK8N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21896 set terminal tgif; set output "_aiueo-K8N1.obj"; replot; set terminal X11; replot
21897 ################
21898 #上の結果を眺めると、各母音毎に、特徴的な数層の極の付近に極が有るか無いかで認識できそう。
21899 #ただし、従来のように分析次数κ8圏のすべての極を調べようだ ; do
21900 #for F in a i u e o aiueo ; do
21901 fbody=_${F}-K8N1;
21902 tgif -print -eps ${fbody}.eps;
21903 lpr ${fbody}.eps;
21904 done
21905 ################
21906
21907 cd tmp; gnuplot
21908 set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21909 plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1", "sawa-a-polesK9N1-1.d
at" using 1:2 t "a-sawaK9N1", cos(t),sin(t) t "" w l 1
21910 set terminal tgif; set output "_a-K9N1.obj"; replot; set terminal X11; replot
21911 plot [0:2*pi][-2:2] "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1", "sawa-i-polesK9N1-1.d
at" using 1:2 t "i-sawaK9N1", cos(t),sin(t) t "" w l 1
21912 set terminal tgif; set output "_i-K9N1.obj"; replot; set terminal X11; replot
21913 plot [0:2*pi][-2:2] "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1", "sawa-u-polesK9N1-1.d
at" using 1:2 t "u-sawaK9N1", cos(t),sin(t) t "" w l 1
21914 set terminal tgif; set output "_u-K9N1.obj"; replot; set terminal X11; replot
21915 plot [0:2*pi][-2:2] "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1", "sawa-e-polesK9N1-1.d
at" using 1:2 t "e-sawaK9N1", cos(t),sin(t) t "" w l 1
21916 set terminal tgif; set output "_e-K9N1.obj"; replot; set terminal X11; replot
21917 plot [0:2*pi][-2:2] "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1", "sawa-o-polesK9N1-1.d
at" using 1:2 t "o-sawaK9N1", cos(t),sin(t) t "" w l 1
21918 set terminal tgif; set output "_o-K9N1.obj"; replot; set terminal X11; replot
21919 set pointsize 0.5
21920 plot [0:2*pi][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1" w p l, "sawa-a-polesK9
N1-1.dat" using 1:2 t "a-sawaK9N1" w p l, \
21921 "eguti-i-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1" w p 2, "sawa-i-polesK9N1-1.dat" using 1:2 t "i-s
awaK9N1" w p 2,
21922 "eguti-u-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1" w p 3, "sawa-u-polesK9N1-1.dat" using 1:2 t "u-s
awaK9N1" w p 3,
21923 "eguti-e-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1" w p 4, "sawa-e-polesK9N1-1.dat" using 1:2 t "e-s
awaK9N1" w p 4,
21924 "eguti-o-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1" w p 5, "sawa-o-polesK9N1-1.dat" using 1:2 t "o-s
awaK9N1" w p 5, cos(t),sin(t) t "1.0" w l 1, 0.7*cos(t),0.7*sin(t) t "0.7" w l 1
21925 set terminal tgif; set output "_aiueo-K9N1.obj"; replot; set terminal X11; replot
21926 set pointsize 0.5
21927 quit
21928 #上の結果を眺めると、各母音毎に、特徴的な数層の極の付近に極が有るか無いかで認識できそう。
21929 #ただし、従来のように分析次数κ9圏のすべての極の距離を調べようだ ; do
21930 #for F in a i u e o aiueo ; do
21931 fbody=_${F}-K9N1;
21932 tgif -print -eps ${fbody}.obj ;
```

```
21933 lpr ${fbody}.eps;
21934 done
21935
21936 gnuplot
21937 p1=1:p2=5:p3=8:set pointsize 2 #for display
21938 p1=0:p2=8:p3=10:set pointsize 0.5 # for tgif
21939 #set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set po
intsize 0.5
21940 #F0="sawa-a-polesK9N32-34.dat"; F1="eguti-a-polesK9N1-1.dat"; F2="a-egutiK9N1"
21941 #plot [0:2*pi][-2:2] F1 using 1:2 t "a-sawaK9N32-34" w p p1, F2 using 1:2 t "a-sawaK9N1"
2, F3 using 1:2 t "a-egutiK9N1" w p p3, cos(t),sin(t) t "" w l 1
21942 set xtics (-2,-1,0,1,2); set ytics (-2,-1,0,1,2); set grid; set size square; set parametric; set poi
ntsize 0.5
21943 plot [0:2*pi][-2:2] "sawa-a-polesK9N32-34.dat" using 1:2 t "a-sawaK9N32-34" w p p1, "eguti-a-p
olesK9N1-1.dat" using 1:2 t "a-egutiK9N1" w p p3,
21944 set terminal tgif; set output "_a-sawaK9N32-34.obj"; replot; set terminal X11; replot
21945 plot [0:2*pi][-2:2] "sawa-i-polesK9N32-34.dat" using 1:2 t "i-sawaK9N32-34" w p p1, "eguti-i-p
olesK9N1-1.dat" using 1:2 t "i-egutiK9N1" w p p3,
21946 set terminal tgif; set output "_i-sawaK9N32-34.obj"; replot; set terminal X11; replot
21947 plot [0:2*pi][-2:2] "sawa-u-polesK9N32-34.dat" using 1:2 t "u-sawaK9N32-34" w p p1, "eguti-u-p
olesK9N1-1.dat" using 1:2 t "u-egutiK9N1" w p p3,
21948 set terminal tgif; set output "_u-sawaK9N32-34.obj"; replot; set terminal X11; replot
21949 plot [0:2*pi][-2:2] "sawa-e-polesK9N32-34.dat" using 1:2 t "e-sawaK9N32-34" w p p1, "eguti-e-p
olesK9N1-1.dat" using 1:2 t "e-egutiK9N1" w p p3,
21950 set terminal tgif; set output "_e-sawaK9N32-34.obj"; replot; set terminal X11; replot
21951 plot [0:2*pi][-2:2] "sawa-o-polesK9N32-34.dat" using 1:2 t "o-sawaK9N32-34" w p p1, "eguti-o-p
olesK9N1-1.dat" using 1:2 t "o-egutiK9N1" w p p3,
21952 set terminal tgif; set output "_o-sawaK9N32-34.obj"; replot; set terminal X11; replot
21953
21954 plot [0:2*pi][-2:2] "eguti-a-polesK9N32-34.dat" using 1:2 t "a-egutiK9N32-34" w p p1, "eguti-a
-polesK9N1-1.dat" using 1:2 t "a-egutiK9N1" w p p3
, cos(t),sin(t) t "" w l 1
21955 set terminal tgif; set output "_a-egutiK9N32-34.obj"; replot; set terminal X11; replot
21956 plot [0:2*pi][-2:2] "eguti-i-polesK9N32-34.dat" using 1:2 t "i-egutiK9N32-34" w p p1, "eguti-i
-polesK9N1-1.dat" using 1:2 t "i-egutiK9N1" w p p3
, cos(t),sin(t) t "" w l 1
21957 set terminal tgif; set output "_i-egutiK9N32-34.obj"; replot; set terminal X11; replot
21958 plot [0:2*pi][-2:2] "eguti-u-polesK9N32-34.dat" using 1:2 t "u-egutiK9N32-34" w p p1, "eguti-u
-polesK9N1-1.dat" using 1:2 t "u-egutiK9N1" w p p3
, cos(t),sin(t) t "" w l 1
21959 set terminal tgif; set output "_u-egutiK9N32-34.obj"; replot; set terminal X11; replot
21960 plot [0:2*pi][-2:2] "eguti-e-polesK9N32-34.dat" using 1:2 t "e-egutiK9N32-34" w p p1, "eguti-e
-polesK9N1-1.dat" using 1:2 t "e-egutiK9N1" w p p3
, cos(t),sin(t) t "" w l 1
21961 set terminal tgif; set output "_e-egutiK9N32-34.obj"; replot; set terminal X11; replot
21962 plot [0:2*pi][-2:2] "eguti-o-polesK9N32-34.dat" using 1:2 t "o-egutiK9N32-34" w p p1, "eguti-o
-polesK9N1-1.dat" using 1:2 t "o-egutiK9N1" w p p3
, cos(t),sin(t) t "" w l 1
21963 set terminal tgif; set output "_o-egutiK9N32-34.obj"; replot; set terminal X11; replot
21964 quit
21965
21966 #for name in sawa eguti ; do
21967 for name in sawa ; do
21968 for F in a i u e o ; do
21969 fbody=_${F}-${name}K9N32-34;
21970 tgif -print -eps ${fbody}.obj ;
21971 lpr ${fbody}.eps
21972 done
21973 done
21974
21975
21976
21977
21978 set size square; set parametric
21979 plot [0:2*pi][-2:2] "eguti-a-polesK9N32-34.dat" using 1:2 t "a-K9N32-34", "sawa-a-polesK9
N32-34.dat" using 1:2, "eguti-a-polesK9N1-1.dat" using 1:2, cos(t),sin(t
) t "" w l 1
21980 set terminal tgif; set output "_a-K9N32-34-eguti.obj"; replot; set terminal X11; replot
21981 plot [0:2*pi][-2:2] "eguti-i-polesK9N32-34.dat" using 1:2 t "i-K9N32-34", "sawa-i-polesK9
N32-34.dat" using 1:2, "eguti-i-polesK9N1-1.dat" using 1:2, cos(t),sin(t
) t "" w l 1
21982 set terminal tgif; set output "_i-K9N32-34-eguti.obj"; replot; set terminal X11; replot
21983 plot [0:2*pi][-2:2] "eguti-u-polesK9N32-34.dat" using 1:2 t "u-K9N32-34", "sawa-u-polesK9
N32-34.dat" using 1:2, "eguti-u-polesK9N1-1.dat" using 1:2, cos(t),sin(t
) t "" w l 1
21984 set terminal tgif; set output "_u-K9N32-34-eguti.obj"; replot; set terminal X11; replot
21985 set terminal tgif; set output "_u-K9N32-34-eguti.obj"; replot; set terminal X11; replot
```

```
21986  plot [0:2*pi][-2:2][-2:2] "eguti-e-polesK9N32-34.dat" using 1:2 t "a-egutiK9N32-34", "sawa-e-polesK9
N32-34.dat" using 1:2, "eguti-e-polesK9N1-1.dat" using 1:2, "sawa-e-polesK9N1-1.dat" using 1:2, cos(t),sin(t
) t "" w l l l
21987  set terminal tgif; set output "e-K9N32-34-eguti.obj"; replot; set terminal X11; replot
21988  plot [0:2*pi][-2:2][-2:2] "eguti-o-polesK9N32-34.dat" using 1:2 t "a-egutiK9N32-34", "sawa-o-polesK9
N32-34.dat" using 1:2, "eguti-o-polesK9N1-1.dat" using 1:2, "sawa-o-polesK9N1-1.dat" using 1:2, cos(t),sin(t
) t "" w l l l
21989  set terminal tgif; set output "_o-K9N32-34-eguti.obj"; replot; set terminal X11; replot
21990
21991
21992
21993
21994  set size square; set parametric
21995  plot [0:2*pi][-2:2][-2:2] "sawa-a-polesK9N32-34.dat" using 1:2, "sawa-a-polesK9N1-1.dat" using 1:2
, cos(t),sin(t), "sawa-a-polesK9N1-1.dat" using 1:2, "sawa-a-polesK9N32-34.dat" using 1:2
21996  set terminal tgif; set output _a-K9N32-34-sawa.obj"; replot; set terminal X11; replot
21997  plot [0:2*pi][-2:2][-2:2] "sawa-i-polesK9N32-34.dat" using 1:2, "sawa-i-polesK9N1-1.dat" using 1:2
, cos(t),sin(t), "sawa-i-polesK9N1-1.dat" using 1:2, "sawa-i-polesK9N32-34.dat" using 1:2
21998  set terminal tgif; set output "-i-K9N32-34-sawa.obj"; replot; set terminal X11; replot
21999  plot [0:2*pi][-2:2][-2:2] "sawa-u-polesK9N32-34.dat" using 1:2, "sawa-u-polesK9N1-1.dat" using 1:2
, cos(t),sin(t), "sawa-u-polesK9N1-1.dat" using 1:2, "sawa-u-polesK9N32-34.dat" using 1:2
22000  set terminal tgif; set output "_u-K9N32-34-sawa.obj"; replot; set terminal X11; replot
22001  plot [0:2*pi][-2:2][-2:2] "sawa-e-polesK9N32-34.dat" using 1:2, "sawa-e-polesK9N1-1.dat" using 1:2
, cos(t),sin(t), "sawa-e-polesK9N1-1.dat" using 1:2, "sawa-e-polesK9N32-34.dat" using 1:2
22002  set terminal tgif; set output "e-K9N32-34-sawa.obj"; replot; set terminal X11; replot
22003  plot [0:2*pi][-2:2][-2:2] "sawa-o-polesK9N32-34.dat" using 1:2, "sawa-o-polesK9N1-1.dat" using 1:2
, cos(t),sin(t), "sawa-o-polesK9N1-1.dat" using 1:2, "sawa-o-polesK9N32-34.dat" using 1:2
22004  set terminal tgif; set output "_o-K9N32-34-sawa.obj"; replot; set terminal X11; replot
22005
22006
22007  #以下で話者認識?
22008  set size square: set parametric
22009  set size square; set parametric
22010  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK9N32-34.dat" using 1:2 w p 1 1, "eguti-i-polesK9N32-34.dat"
using 1:2 w p 1 1, "eguti-u-polesK9N32-34.dat" using 1:2 w p 1 1, "sawa-e-polesK9N32-34.dat" using 1:2 w p
1 1, "eguti-o-polesK9N32-34.dat" using 1:2 w p 2 2, "sawa-u-polesK9N32-34.dat" using 1:2 w p 2 2, "sawa-i-p
olesK9N32-34.dat" using 1:2 w p 2 2, "sawa-o-polesK9N32-34.dat" using 1:2 w p 2 2
22011
22012  plot [0:2*pi][-2:2][-2:2] "sawa-a-polesK9N32-34.dat" using 1:2 w p 2 2, "sawa-i-polesK9N32-34.dat" u
sing 1:2 w p 2 2, "sawa-u-polesK9N32-34.dat" using 1:2 w p 2 2, "sawa-e-polesK9N32-34.dat" using 1:2 w p 2 2
, "sawa-o-polesK9N32-34.dat" using 1:2 w p 1 1, "eguti-a-polesK9N32-34.dat" using 1:2 w p 1 1, "eguti-i-pole
sK9N32-34.dat" using 1:2 w p 1 1, "eguti-o-polesK9N32-34.dat" using 1:2 w p 1 1
22013
22014  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK9N1-1.dat" using 1:2 w p 1 1, "eguti-i-polesK9N1-1.dat" usi
ng 1:2 w p 1 1, "eguti-u-polesK9N1-1.dat" using 1:2 w p 1 1, "sawa-e-polesK9N1-1.dat" using 1:2 w p 1 1, "e
guti-o-polesK9N1-1.dat" using 1:2 w p 1 1, "sawa-u-polesK9N1-1.dat" using 1:2 w p 2 2, "sawa-i-polesK9N1-1.d
at" using 1:2 w p 2 2, "sawa-o-polesK9N1-1.dat" using 1:2 w p 2 2
22015
22016
22017  set boxwidth 2
22018  set size square: set parametric
22019  splot [-2:2][-2:2] "sawa-a-polesK9N32-34.dat" using 1:2:5 w boxes, "eguti-a-polesK9N1-1.dat" using 1
:2:5 w boxes, "sawa-a-polesK9N1-1.dat" using 1:2:5 w boxes
22020  splot [-2:2][-2:2] "sawa-i-polesK9N32-34.dat" using 1:2:5 w boxes, "eguti-i-polesK9N1-1.dat" using 1
:2:5 w boxes, "sawa-i-polesK9N1-1.dat" using 1:2:5 w boxes
22021  splot [-2:2][-2:2] "sawa-u-polesK9N32-34.dat" using 1:2:5 w boxes, "eguti-u-polesK9N1-1.dat" using 1
:2:5 w boxes, "sawa-u-polesK9N1-1.dat" using 1:2:5 w boxes
22022  splot [-2:2][-2:2] "sawa-e-polesK9N32-34.dat" using 1:2:5 w boxes, "eguti-e-polesK9N1-1.dat" using 1
:2:5 w boxes, "sawa-e-polesK9N1-1.dat" using 1:2:5 w boxes
22023  splot [-2:2][-2:2] "sawa-o-polesK9N32-34.dat" using 1:2:5 w boxes, "eguti-o-polesK9N1-1.dat" using 1
:2:5 w boxes, "sawa-o-polesK9N1-1.dat" using 1:2:5 w boxes
22024
22025
22026  051218
22027  (1)母音(a,i,u,e,o)の極
22028   ・音源(声帯)の極 p_s (ピッチ周波数)
22029   ・調音(articulation)の極 p_a
22030   一般に p_a < p_s
22031  (2)伝達関数の極を求める(次のURLのGSLの多項式の解法より求める)。
22032  http://www.gnu.org/software/gsl/manual/gsl-ref_6.html#SEC52
22033  (3)
22034  ####
22035  #export K=12 T=100 g=5e-3 t1=2000 t2=2200 method=mspE pM=pMm
22036  export K=9 T=100 g=5e-3 t1=2000 t2=2200 method=mspE pM=pMm
22037  for name in eguti sawa ; do
22038  for onsei in a i u e o; do
22039  dname=${name}-${onsei}
22040  dn_timeseries=./data/${dname}.dat
22041  #dn_regression=./tmp/${dname}-fa.dat
```

```
22042  if [ ${K} -eq 9 ] ; then N2=32: else N2=50 ; fi
22043  for N in 1 ${N2} ; do
22044  #for N in 1 ; do
22045  #for N in 1 32 ; do
22046  file=tmp/bestmspN${N}.net
22047  predfile=tmp/predictN${N}.dat
22048  pfile=tmp/${dname}-polesK${K}N${N}.dat
22049  pfile2=tmp/${dname}-poles2K${K}N${N}.dat
22050
22051  if [ -e ${pfile} ] ; then
22052    echo ${pfile} exists. Omit calculation.
22053  else
22054  ##
22055  cat > param.dat << EOF
22056  0          #0:timeseries,1:chaos prepare_data() in my_function.c
22057  ${K}  0          #channels
22058  ${dn_timeseries}
22059  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
22060  0 0 0 0          #y0min y0max y1min y1max for normalization
22061  in          #
22062  ${N}          #n_cells storing vectors
22063  20          #n_compare
22064  0.5  3          #v_thresh v_min
22065  10          #v_ratio    window width
22066  0.2          #width     window width
22067  ex          #execute
22068  1 ${g} 0.7  #i=0:online,i=1:batch, gamma0, entropy_thresh
22069  ${T}          #iterations to execute
22070  10          #display
22071  nl
22072  bestmsp.net
22073  msp
22074  ${pM}
22075  quit
22076  EOF
22077  echo "Executing can2 for N=${N}"
22078  echo "---the following are param.dat---"
22079  cat param.dat
22080  echo "---the above are in param.dat---"
22081  echo "---Executing can2 for dname=${dname}, N=${N}."
22082  #can2 <param.dat > /dev/null
22083  can2 <param.dat
22084  echo ### Done can2 for ${dname} K=${K} N=${N}
22085  cp bestmsp.net ${file}
22086  cp predict.dat ${predfile}
22087  cp tmp/poles.dat ${pfile}
22088  cp tmp/poles2.dat ${pfile2}
22089  fi
22090  done
22091  done
22092  done
22093  #####
22094  >>MSE-->-1.009086e+03 NMSE-->9.979119e-01eguti-a K=9 N=1
22095  >>MSE-->-1.757765e+03 NMSE-->6.637374e-01eguti-i K=9 N=1
22096  >>MSE-->-3.332717e+03 NMSE-->9.966225e-01eguti-u K=9 N=1
22097  >>MSE-->-1.337969e+03 NMSE-->8.902110e-01eguti-o K=9 N=1
22098  >>MSE-->-4.718409e+01 NMSE-->8.930448e-01sawa-a K=9 N=1
22099  >>MSE-->-1.533527e+03 NMSE-->4.964873e-01sawa-i K=9 N=1
22100  >>MSE-->-2.461112e+03 NMSE-->9.232148e-01sawa-u K=9 N=1
22101  >>MSE-->-2.195580e+03 NMSE-->9.060997e-01sawa-e K=9 N=1
22102  >>MSE-->-1.416616e+03 NMSE-->6.478209e-01sawa-o K=9 N=1
22103
22104  >>MSE-->-8.482830e+01 NMSE-->8.388897e-02eguti-a K=9 N=32
22105  >>MSE-->-1.537026e+02 NMSE-->5.803578e-02eguti-i K=9 N=32
22106  >>MSE-->-4.719879e+02 NMSE-->1.411442e-01eguti-u K=9 N=32
22107  >>MSE-->-8.381262e+01 NMSE-->7.169715e-02eguti-e K=9 N=32
22108  >>MSE-->-1.172052e+01 NMSE-->7.798187e-03eguti-o K=9 N=32
22109  >>MSE-->-2.131042e+00 NMSE-->4.033384e-02sawa-a K=9 N=32
22110  >>MSE-->-3.984256e+02 NMSE-->1.337969e-01sawa-i K=9 N=32
22111  >>MSE-->-2.685022e+02 NMSE-->1.007208e-01sawa-u K=9 N=32
22112  >>MSE-->-2.461112e+03 NMSE-->2.461114e-02sawa-e K=9 N=32
22113  >>MSE-->-2.856396e+02 NMSE-->1.306235e-01sawa-o K=9 N=32
22114
22115
22116  >>MSE-->-9.982510e+02 NMSE-->9.871970e-01eguti-a K=12 N=1
22117  >>MSE-->-1.119767e+03 NMSE-->4.228275e-01eguti-i K=12 N=1
22118  >>MSE-->-3.220792e+03 NMSE-->9.631524e-01eguti-u K=12 N=1
22119  >>MSE-->-1.097598e+03 NMSE-->9.389359e-01eguti-e K=12 N=1
22120  >>MSE-->-1.350245e+03 NMSE-->8.983787e-01eguti-o K=12 N=1
22121
22122  >>MSE-->-1.135538e+03 NMSE-->-1.122964e+00eguti-a K=12 N=50???
22123  >>MSE-->-7.135935e+01 NMSE-->-2.694551e-02eguti-i K=12 N=50
```

```
22180  splot [-2:2][-2:2] "eguti-o-polesN32.dat" using 1:2:5 w boxes
22181  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesN32.dat" using 1:2, "eguti-a-polesN1.dat" using 1:2, cos(t),
22182  sin(t),1
22183  set size square: set parametric
22184  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesN32.dat" using 1:2, "eguti-a-polesN1.dat" using 1:2, cos(t),
22185  sin(t), "sawa-a-polesN1.dat" using 1:2
22186  plot [0:2*pi][-2:2][-2:2] "eguti-i-polesN32.dat" using 1:2, "eguti-i-polesN1.dat" using 1:2, cos(t),si
22187  sin(t), "sawa-i-polesN1.dat" using 1:2
22188  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesN32.dat" using 1:2, "eguti-u-polesN1.dat" using 1:2, cos(t),si
22189  sin(t), "sawa-u-polesN1.dat" using 1:2
22190  plot [0:2*pi][-2:2][-2:2] "eguti-e-polesN32.dat" using 1:2, "eguti-e-polesN1.dat" using 1:2, cos(t),si
22191  n(t), "sawa-e-polesN1.dat" using 1:2
22192  plot [0:2*pi][-2:2][-2:2] "eguti-o-polesN32.dat" using 1:2, "eguti-o-polesN1.dat" using 1:2, cos(t),si
22193  n(t), "sawa-o-polesN1.dat" using 1:2
22194  set size square: set parametric
22195  plot [0:2*pi][-2:2][-2:2] "sawa-a-polesN32.dat" using 1:2, cos(t),si
22196  n(t), "eguti-a-polesN1.dat" using 1:2
22197  plot [0:2*pi][-2:2][-2:2] "sawa-i-polesN32.dat" using 1:2, cos(t),si
22198  n(t), "eguti-i-polesN1.dat" using 1:2
22199  plot [0:2*pi][-2:2][-2:2] "sawa-u-polesN32.dat" using 1:2, cos(t),si
22200  n(t), "eguti-u-polesN1.dat" using 1:2
22201  plot [0:2*pi][-2:2][-2:2] "sawa-e-polesN32.dat" using 1:2, cos(t),si
22202  n(t), "eguti-e-polesN1.dat" using 1:2
22203  plot [0:2*pi][-2:2][-2:2] "sawa-o-polesN32.dat" using 1:2, cos(t),si
22204  n(t), "eguti-o-polesN1.dat" using 1:2
22205  set size square: set parametric
22206  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesN32.dat" using 1:2, "sawa-a-polesN32.dat" using 1:2, cos(t),
22207  sin(t)
22208  plot [0:2*pi][-2:2][-2:2] "eguti-i-polesN32.dat" using 1:2, "sawa-i-polesN32.dat" using 1:2, cos(t),
22209  sin(t)
22210  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesN32.dat" using 1:2, "sawa-u-polesN32.dat" using 1:2, cos(t),
22211  sin(t)
22212  plot [0:2*pi][-2:2][-2:2] "eguti-e-polesN32.dat" using 1:2, "sawa-e-polesN32.dat" using 1:2, cos(t),
22213  sin(t)
22214  plot [0:2*pi][-2:2][-2:2] "eguti-o-polesN32.dat" using 1:2, "sawa-o-polesN32.dat" using 1:2, cos(t),
22215  sin(t)
22216
22217  ###############
22218  set size square;
22219  plot "eguti-a-polesN1.dat" using 3:4, "sawa-a-polesN1.dat" using 3:4
22220  plot "eguti-i-polesN1.dat" using 3:4, "sawa-i-polesN1.dat" using 3:4
22221  plot "eguti-u-polesN1.dat" using 3:4, "sawa-u-polesN1.dat" using 3:4
22222  plot "eguti-e-polesN1.dat" using 3:4, "sawa-e-polesN1.dat" using 3:4
22223  plot "eguti-o-polesN1.dat" using 3:4, "sawa-o-polesN1.dat" using 3:4
22224
22225  set size square;
22226  plot "eguti-a-polesN32.dat" using 3:4, "eguti-a-polesN1.dat" using 3:4
22227  plot "eguti-i-polesN32.dat" using 3:4, "eguti-i-polesN1.dat" using 3:4
22228  plot "eguti-u-polesN32.dat" using 3:4, "eguti-u-polesN1.dat" using 3:4
22229  plot "eguti-e-polesN32.dat" using 3:4, "eguti-e-polesN1.dat" using 3:4
22230  plot "eguti-o-polesN32.dat" using 3:4, "eguti-o-polesN1.dat" using 3:4
22231
22232  set size square
22233  plot "sawa-a-polesN32.dat" using 3:4, "sawa-a-polesN1.dat" using 3:4
22234  plot "sawa-i-polesN32.dat" using 3:4, "sawa-i-polesN1.dat" using 3:4
22235  plot "sawa-u-polesN32.dat" using 3:4, "sawa-u-polesN1.dat" using 3:4
22236  plot "sawa-e-polesN32.dat" using 3:4, "sawa-e-polesN1.dat" using 3:4
22237  plot "sawa-o-polesN32.dat" using 3:4, "sawa-o-polesN1.dat" using 3:4
22238
22239  051215
22240  (1)予測ステップ数を増やすと mspE (多段予測結果をアンサンブル下述)の方が安定?よい?
22241  export dname=eguti-a K=9 T=100 g=5e-3
22242  export dn_timeseries=./data/${dname}.dat dn_regression=./tmp/${dname}-fa.dat
22243  export t1=2000 t2=200 method=mspE
22244  export t1=2000 t2=10000 method=mspE
22245  export N1=32 N2=50 ens=
       export N1=32 N2=32 ens=

       cat >param.dat << EOF  #save parameters
       0 #0:timeseries,1:chaos prepare_data() in my_function.c
       ${K} 0     #channels
       ${dn_timeseries}  #training file
       ${Ttrain,Ttotal: points in time of training and total data
       ${t1} ${t2}
       0 0 0 0     #y0min y0max y1min y1max for normalization
       qu
       EOF
       ###
```

```
22124  >>MSE---:1.678992e+02 NMSE---:5.020893e-02eguti-u K=12 N=50
22125  >>MSE---:6.611632e+01 NMSE---:5.655892e-01eguti-i-e K=12 N=50
22126  >>MSE---:3.879216e+01 NMSE---:2.581017e-02eguti-o K=12 N=50
22127
22128  >>MSE---:4.602902e+01 NMSE---:8.711829e-01sawa-a K=12 N=1
22129  >>MSE---:8.486471e+02 NMSE---:2.747538e-01sawa-i K=12 N=1
22130  >>MSE---:2.030515e+03 NMSE---:7.616887e-01sawa-u K=12 N=1
22131  >>MSE---:2.186250e+03 NMSE---:9.022493e-01sawa-e K=12 N=1
22132  >>MSE---:1.004039e+03 NMSE---:4.591491e-01sawa-o K=12 N=1
22133  >>MSE---:1.259704e+01 NMSE---:2.384219e-02sawa-a K=12 N=50
22134  >>MSE---:2.872742e+02 NMSE---:9.300648e-02sawa-i K=12 N=50
22135  >>MSE---:2.140312e+02 NMSE---:8.028757e-02sawa-u K=12 N=50
22136  >>MSE---:2.925752e+01 NMSE---:1.207436e-02sawa-e K=12 N=50
22137  >>MSE---:1.495416e+02 NMSE---:6.838566e-02sawa-o K=12 N=50
22138
22139  cat eguti-a-polesN32.dat | awk '{print $5, $1, $2}' | inscr - > eguti-a-polesN32+.dat
22140
22141  cd tmp
22142  gnuplot
22143  set grid;
22144
22145  set size square: set parametric
22146  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK12N1.dat" using 1:2, "sawa-a-polesK12N1.dat" using 1:2, cos
       (t),sin(t), "eguti-a-polesK9N1.dat" using 1:2, "sawa-a-polesK9N1.dat" using 1:2, cos
22147  plot [0:2*pi][-2:2][-2:2] "eguti-i-polesK12N1.dat" using 1:2, "sawa-i-polesK12N1.dat" using 1:2, cos
       (t),sin(t), "eguti-i-polesK9N1.dat" using 1:2, "sawa-i-polesK9N1.dat" using 1:2, cos
22148  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesK12N1.dat" using 1:2, "sawa-u-polesK12N1.dat" using 1:2, cos
       (t),sin(t), "eguti-u-polesK9N1.dat" using 1:2, "sawa-u-polesK9N1.dat" using 1:2, cos
22149  plot [0:2*pi][-2:2][-2:2] "eguti-e-polesK12N1.dat" using 1:2, "sawa-e-polesK12N1.dat" using 1:2, cos
       (t),sin(t), "eguti-e-polesK9N1.dat" using 1:2, "sawa-e-polesK9N1.dat" using 1:2, cos
22150  plot [0:2*pi][-2:2][-2:2] "eguti-o-polesK12N1.dat" using 1:2, "sawa-o-polesK12N1.dat" using 1:2, cos
       (t),sin(t), "eguti-o-polesK9N1.dat" using 1:2, "sawa-o-polesK9N1.dat" using 1:2
22151
22152  set size square: set parametric
22153  plot [0:2*pi][-2:2][-2:2] "eguti-a-polesK12N1.dat" using 1:2, "sawa-a-polesK12N1.dat" using 1:2, cos
       (t),sin(t)
22154  plot [0:2*pi][-2:2][-2:2] "eguti-i-polesK12N1.dat" using 1:2, "sawa-i-polesK12N1.dat" using 1:2, cos
       (t),sin(t)
22155  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesK12N1.dat" using 1:2, "sawa-u-polesK12N1.dat" using 1:2, cos
       (t),sin(t)
22156  plot [0:2*pi][-2:2][-2:2] "eguti-e-polesK12N1.dat" using 1:2, "sawa-e-polesK12N1.dat" using 1:2, cos
       (t),sin(t)
22157  plot [0:2*pi][-2:2][-2:2] "eguti-o-polesK12N1.dat" using 1:2, "sawa-o-polesK12N1.dat" using 1:2, cos
       (t),sin(t)
22158
22159
22160  set size square: set parametric
22161  plot [0:2*pi][-2:2][-2:2] "eguti-a-poles2K9N32.dat" using 1:2, "eguti-a-poles2K9N32.dat" using 3:4,
       "eguti-a-poles2K9N32.dat" using 5:6, "eguti-a-poles2K9N32.dat" using 7:8, "eguti-a-poles2K9N32.dat" using 9:
10, "eguti-a-poles2K9N32.dat" using 11:12, "eguti-a-poles2K9N32.dat" using 13:14, "eguti-a-poles2K9N32.dat"
using 15:16, "eguti-a-poles2K9N32.dat" using 17:18, cos(t),sin(t), "eguti-a-polesK9N1.dat" using 1:2
22162
22163  set size square: set parametric
22164  plot [0:2*pi][-2:2][-2:2] "sawa-a-poles2K12N50.dat" using 1:2, "sawa-a-poles2K12N50.dat" using 3:4,
       "sawa-a-poles2K12N50.dat" using 5:6, "sawa-a-poles2K12N50.dat" using 7:8, "sawa-a-poles2K12N50.dat" using 9:
10, "sawa-a-poles2K12N50.dat" using 11:12, "sawa-a-poles2K12N50.dat" using 13:14, "sawa-a-poles2K12N50.dat"
using 15:16, "sawa-a-poles2K12N50.dat" using 17:18, "sawa-a-poles2K12N50.dat" using 19:20, "sawa-a-poles2K12
N50.dat" using 21:22, "sawa-a-poles2K12N50.dat" using 23:24, cos(t),sin(t)
22165
22166  set size square: set parametric
22167  plot [0:2*pi][-2:2][-2:2] "eguti-a-poles2K12N50.dat" using 1:2, "eguti-a-poles2K12N50.dat" using 3:4
       , "eguti-a-poles2K12N50.dat" using 5:6, "eguti-a-poles2K12N50.dat" using 7:8, "eguti-a-poles2K12N50.dat" usi
ng 9:10, "eguti-a-poles2K12N50.dat" using 11:12, "eguti-a-poles2K12N50.dat" using 13:14, "eguti-a-poles2K12N
50.dat" using 15:16, "eguti-a-poles2K12N50.dat" using 17:18, "eguti-a-poles2K12N50.dat" using 19:20, "eguti-
a-poles2K12N50.dat" using 21:22, "eguti-a-poles2K12N50.dat" using 23:24, cos(t),sin(t)
22168
22169
22170  plot [0:2*pi][-2:2][-2:2] "eguti-a-poles2N32.dat" using 1:2, "eguti-a-poles2N32.dat" using 3:4, "egu
ti-a-poles2N32.dat" using 5:6, "eguti-a-poles2N32.dat" using 7:8, "eguti-a-poles2N32.dat" using 9:10, "eguti
-a-poles2N32.dat" using 11:12, "eguti-a-poles2N32.dat" using 13:14, "eguti-a-poles2N32.dat" using 15:16, "eg
uti-a-poles2N32.dat" using 17:18, cos(t),sin(t)
22171
22172
22173  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesN1.dat" using 1:2, "eguti-u-polesN1.dat" using 1:2, "sawa-a-
polesN1.dat" using 1:2, cos(t),sin(t)
22174  plot [0:2*pi][-2:2][-2:2] "eguti-u-polesN1.dat" using 1:2, "eguti-u-polesN1.dat" using 1:2, "sawa-u-
polesN1.dat" using 1:2, cos(t),sin(t)
22175
22176  splot [-2:2][-2:2] "eguti-a-polesN32.dat" using 1:2:5 w boxes
22177  splot [-2:2][-2:2] "eguti-i-polesN32.dat" using 1:2:5 w boxes
22178  splot [-2:2][-2:2] "eguti-u-polesN32.dat" using 1:2:5 w boxes
22179  splot [-2:2][-2:2] "eguti-e-polesN32.dat" using 1:2:5 w boxes
```

```
22246  ./can2 <param.dat >/dev/null
22247  cp tmp/train+test.dat ${dn_regression}
22248  ###N1から N2まで に対する can2の実行
22249  export N=${N1}
22250  while [ ${N} -le ${N2} ] ; do
22251  file=tmp/bestmspN${N}.net
22252  predfile=tmp/predictN${N}.dat
22253  if [ -e ${file} ] ; then
22254  echo $file exists. Omit calculation.
22255  else
22256  ##
22257  cat > param.dat << EOF
22258  0            #0:timeseries,1:chaos prepare_data() in my_function.c
22259  9            #channels
22260  ${dn_timeseries}
22261  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
22262  0 0 0 0      #y0min y0max y1min y1max for normalization
22263  in            #n_cells storing vectors
22264  9 ${N}         #n_compare
22265  0.5 3          #v_thresh v_min
22266  10            #v_ratio
22267  0.2           #width window width
22268  ex            #execute
22269  1 5e-3 0.7    #i=0:online,i=1:batch, gamma0, entropy_thresh
22270  100           #iterations to execute
22271  10            #display
22272  quit
22273  EOF
22274  echo "Executing can2 for N=${N}"
22275  echo "---the following are param.dat---"
22276  cat param.dat
22277  echo "---the above are in param.dat---"
22278  can2 <param.dat > /dev/null
22279  cp bestmsp.net ${file}
22280  cp predict.dat ${predfile}
22281  ##
22282  fi           #Ttrain,Ttotal: points in time of training and total data
22283  0 0 0 0      #y0min y0max y1min y1max for normalization
22284  export ens=$ens" "${file}
22285  N=`expr ${N} + 1`
22286  done
22287  #######アンサンブルの実行
22288  cat > param.dat << EOF
22289  0            #0:timeseries,1:chaos prepare_data() in my_function.c
22290  9 0          #channels
22291  ${dn_timeseries}
22292  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
22293  0 0 0 0      #y0min y0max y1min y1max for normalization
22294  nls
22295  ${ens}
22296  ${method}
22297  qu
22298  EOF
22299  ./can2 < param.dat
22300  ###Do above. cat param.dat
22301  ###The following are the result of the above.
22302  export t1=2000 t2=10000 method=mspE
22303  >MSE---:5.228884e+02 NMSE---:7.263267e-01   #N1=32 N2=50
22304  >MSE---:6.308372e+02 NMSE---:8.762748e-01   #N1=32 N2=39
22305  >MSE---:1.742652e+03 NMSE---:2.420659e+00   #N1=32 N2=${N1}
22306  >MSE---:1.491824e+03 NMSE---:2.072243e+00   #N1=32 N2=${N1}
22307  >MSE---:1.678404e+03 NMSE---:2.331414e+00   #N1=34 N2=${N1}
22308  >MSE---:9.748113e+02 NMSE---:1.354078e+00   #N1=35 N2=${N1}
22309  >MSE---:1.561517e+03 NMSE---:2.169051e+00   #N1=36 N2=${N1}
22310  >MSE---:1.720974e+03 NMSE---:2.390547e+00   #N1=37 N2=${N1}
22311  >MSE---:2.009416e+03 NMSE---:2.791213e+00   #N1=38 N2=${N1}
22312  >MSE---:8.709051e+02 NMSE---:1.209745e+00   #N1=39 N2=${N1}
22313
22314  export t1=2000 t2=3000 method=mspE
22315  >MSE---:2.015479e+02 NMSE---:1.900351e-01   #N1=32 N2=mspE
22316  >MSE---:5.018860e+02 NMSE---:4.732172e-01   #N1=32 N2=39
22317  >MSE---:2.854751e+02 NMSE---:2.691681e-01   #N1=34 N2=${N1}
22318  >MSE---:1.135236e+03 NMSE---:1.070388e+00   #N1=32 N2=32
22319  export t1=2000 t2=5000 method=mspE
22320  mspE>MSE---:7.077720e+02 NMSE---:7.243027e-01   #N1=32 N2=35
22321  mspE>MSE---:5.931921e+02 NMSE---:7.074647e-01   #N1=32 N2=39
22322  mspE>MSE---:1.999912e+03 NMSE---:2.046622e+00   #N1=32 N2=${N1}
22323  mspE>MSE---:1.240705e+03 NMSE---:1.269683e+00   #N1=33 N2=${N1}
22324  mspE>MSE---:1.359446e+03 NMSE---:1.391197e+00   #N1=34 N2=${N1}
22325  mspE>MSE---:6.334198e+02 NMSE---:6.482140e-01   #N1=35 N2=${N1}
22326  mspE>MSE---:1.077488e+03 NMSE---:1.102654e+00   #N1=36 N2=${N1}
22327  mspE>MSE---:1.695865e+03 NMSE---:1.735474e+00   #N1=37 N2=${N1}
```

```
22328  mspE>>MSE---:1.821431e+03 NMSE---:1.863973e+00   #N1=38 N2=${N1}
22329  mspE>>MSE---:3.147869e+02 NMSE---:3.221390e-01   #N1=39 N2=${N1}
22330
22331
22332  051209
22333  (1)時系列データに対してアンサンブル平均をとるルーチンを入れた。
22334  ルーチンは exec_msp_test_ensemble()  (in sim.c, mspe)：各ステップでアンサンブルしながら多段予測
22335  ルーチンは exec_msp_test_Ensemble()  (in sim.c, mspE)：多段予測：多段予測結果をアンサンブル
22336  結果としてmspEの方が良い結果。理由は不明だがおそらく (：あるユニット数について
22337  悪い結果が出たらmspEでも悪い結果になるが, mspEならそうならない可能性があるから)
22338  もし対象系が線形なら, mspeもmspEも同じになるはず？
22339
22340  ###(1)
22341  export dname=eguti-a K=9 T=100 g=5e-3
22342  export dn_timeseries=./data/${dname}.dat dn_regression=./tmp/${dname}-fa.dat
22343  export t1=2000 t2=2200 method=mspE
22344  export t1=2000 t2=3000 method=mspE
22345  exp
22346  cat >param.dat << EOF   #save parameters
22347  0            #0:timeseries,1:chaos prepare_data() in my_function.c
22348  ${K}  3        #channels
22349  ${dn_timeseries} #training file
22350  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
22351  0 0 0 0      #y0min y0max y1min y1max for normalization
22352  qu
22353  EOF
22354  ###
22355  ./can2 <param.dat >/dev/null
22356  cp tmp/train+test.dat ${dn_regression}
22357  ###汎化能力のあるアンサンブルユニット数 ${dn_regression}
22358  ./ens2ge ${dn_regression} N:30-50:1 ib:0:0:2 M:1-20:1 k:${K} g:${g} T:${T} >/dev/
       null #最適ユニット数探索
22359
22360  #30:  5(N:30-34) Lhat=4.825e-04 Lvarmin 0-2.537e-01 Lvar0=2.537e-01 Lval=2.629464e+00*N:32-32
22361  #30:  6(N:30-35) Lhat=4.825e-04 Lvarmin 1=2.537e-01 Lvar0=2.537e-01 Lval=2.629464e+00*N:32-33
22362  #30:  7(N:30-36) Lhat=4.825e-04 Lvarmin 2-2.537e-01 Lvar0=2.537e-01 Lval=2.629464e+00*N:32-34
22363  #30:  8(N:30-37) Lhat=4.825e-04 Lvarmin 3=2.537e-01 Lvar0=2.537e-01 Lval=2.629464e+00*N:32-35
22364  #30:  9(N:30-38) Lhat=4.825e-04 Lvarmin 4=2.537e-01 Lvar0=2.537e-01 Lval=2.629464e+00*N:32-36
22365
22366  #####(2) Do the following, with the above values.
22367  #####     N1から N2まで に対する can2の実行とアンサンブルの実行
22368  export N1=31 N2=31 ens= #>>MSE---:2.215070e+02 NMSE---:2.190542e-01
22369  export N1=32 N2=32 ens= #>>MSE---:8.482830e+01 NMSE---:8.388897e-02
22370  export N1=33 N2=33 ens= #>>MSE---:7.062676e+01 NMSE---:6.984468e-02
22371  export N1=34 N2=34 ens= #>>MSE---:6.774110e+01 NMSE---:6.699097e-02
22372  export N1=35 N2=35 ens= #>>MSE---:9.398983e+01 NMSE---:9.294904e-02
22373  export N1=36 N2=36 ens= #>>MSE---:6.288071e+01 NMSE---:6.218441e-02
22374  export N1=37 N2=37 ens= #>>MSE---:8.743941e+01 NMSE---:8.647116e-02
22375  export N1=38 N2=38 ens= #>>MSE---:4.696035e+01 NMSE---:4.644034e-02
22376  export N1=39 N2=39 ens= #>>MSE---:4.696035e+01 NMSE---:4.644034e-02
22377  export N1=40 N2=40 ens= #>>MSE---:9.180860e+02 NMSE---:9.079197e-01
22378  export N1=50 N2=50 ens= #>>MSE---:5.666294e+01 NMSE---:5.603549e-02
22379  export N1=60 N2=60 ens= #>>MSE---:8.482679e+01 NMSE---:8.388747e-02
22380  #########
22381  export N1=32 N2=33 ens= #>>MSE---:4.338302e+01 NMSE---:4.290263e-02
22382  export N1=32 N2=34 ens= #>>MSE---:3.948551e+01 NMSE---:3.904827e-02
22383  export N1=32 N2=35 ens= #>>MSE---:4.204710e+01 NMSE---:4.158149e-02
22384  export N1=40 N2=50 ens= #>>MSE---:1.245492e+02 NMSE---:1.231700e-01
22385  export N1=32 N2=36 ens= #>>MSE---:4.364106e+01 NMSE---:4.315780e-02
22386  export N1=38 N2=39 ens= #>>MSE---:4.477799e+01 NMSE---:4.428215e-02
22387  export N1=38 N2=40 ens= #>>MSE---:1.356911e+02 NMSE---:1.341885e-01
22388  export N1=32 N2=39 ens= #>>MSE---:4.557897e+01 NMSE---:4.507425e-02
22389
22390  #########
22391  export dname=eguti-a K=9 T=100 g=5e-3
22392  export dn_timeseries=./data/${dname}.dat dn_regression=./tmp/${dname}-fa.dat
22393  cat >param.dat << EOF   #save parameters
22394  0            #0:timeseries,1:chaos prepare_data() in my_function.c
22395  ${K}  0        #channels
22396  ${dn_timeseries} #training file
22397  ${t1} ${t2}          #Ttrain,Ttotal: points in time of training and total data
22398  0 0 0 0      #y0min y0max y1min y1max for normalization
22399  qu
22400  EOF
22401  ./can2 <param.dat >/dev/null
22402  cp tmp/train+test.dat ${dn_regression}
22403  ##
22404  ###N1から N2まで に対する can2の実行
22405  export N=${N1}
22406  while [ ${N} -le ${N2} ] ; do
22407  file=tmp/bestmspN${N}.net
22408  predfile=tmp/predictN${N}.dat
```

```
22409 if [ -e ${file} ] ; then
22410 echo $file exists. Omit calculation.
22411 else
22412 ##
22413 cat > param.dat << EOF
22414          #0:timeseries,1:chaos prepare_data() in my_function.c
22415 9  0  #channels
22416 ${dn_timeseries}
22417 ${t1} ${t2}      #Ttrain,Ttotal: points in time of training and total data
22418 0 0 0 0      #y0min y0max y1min y1max for normalization
22419 in       #n_compare
22420 ${N}
22421 20       #n_compare
22422 0.5  3   #v_thresh v_min
22423 10       #v_ratio
22424 0.2      #width  window width
22425 ex       #execute
22426 1 5e-3  0.7  #i=0:online,i=1:batch, gamma0, entropy_thresh
22427 100         #iterations to execute
22428 10          #display
22429 quit
22430 EOF
22431 echo "Executing can2 for N=${N}"
22432 can2 <param.dat > /dev/null
22433 cp bestmsp.net ${file}
22434 cp predict.dat ${predfile}
22435 ##
22436 fi
22437 export ens=$ens" "${file}
22438 N=`expr ${N} + 1`
22439 done
22440 #######アンサンブルの発行
22441 cat > param.dat << EOF
22442          #0:timeseries,1:chaos prepare_data() in my_function.c
22443 9  0  #channels
22444 ${dn_timeseries}
22445 ${t1} ${t2}
22446 0 0 0 0       #y0min y0max y1min y1max for normalization
22447 nls
22448 ${ens}
22449 ${method}
22450 qu
22451 EOF
22452 ./can2 < param.dat
22453 ###Do to here.
22454 ##################################################
22455 ##################################################
22456 051208
22457 export dname=eguti-a K=9 T=100 g=5e-3
22458 export dn_timeseries=-./data/${dname}.dat dn_regression=-./tmp/${dname}-fa.dat
22459 cat >param.dat << EOF  #save parameters
22460          #0:timeseries,1:chaos prepare_data() in my_function.c
22461 9  0  #channels
22462 ${dn_timeseries} #training file
22463 2000 2200       #Ttrain,Ttotal: points in time of training and total data
22464 0 0 0 0         #y0min y0max y1min y1max for normalization
22465 qu
22466 EOF
22467 ########
22468 ./can2 <param.dat >/dev/null
22469 cp tmp/train-test.dat ${dn_regression}
22470 ./ens2ge ${dn_regression} ${dn_regression} $(dn_regression) N:30-50:1 ib:0:0:0:2 M:1-20:1 k:${K} g:${g} T:${T} >/dev/
null #最適ユニット数探索
22471 #30: 5(N:30-34) Lhat=4.825e-04 Lvarmin 0=2.537e-01 Lval=2.629464e+00**N:32-32
22472 #30: 6(N:30-35) Lhat=4.825e-04 Lvarmin 1=2.537e-01 Lval=2.629464e+00**N:32-33
22473 #30: 7(N:30-36) Lhat=4.825e-04 Lvarmin 2=2.537e-01 Lval=2.629464e+00**N:32-34
22474 #30: 8(N:30-37) Lhat=4.825e-04 Lvarmin 3=2.537e-01 Lval=2.629464e+00**N:32-35
22475 #30: 9(N:30-38) Lhat=4.825e-04 Lvarmin 4=2.537e-01 Lval=2.629464e+00**N:32-36
22476 ./ens2ge ${dn_regression} ${dn_regression} ${dn_regression} N:30-50:1 k:${K} g:${g} T:${T} >/dev/
null #最適ユニット数探索
22477 ##global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22478 #30: 6(N:30-36) Lhat=4.825e-04 Lvarmin 0=2.537e-01 Lval=2.629464e+00**N:33-33
22479 #30: 7(N:30-37) Lhat=4.825e-04 Lvarmin 1=2.537e-01 Lval=2.629464e+00**N:33-34
22480 #30: 8(N:30-38) Lhat=4.825e-04 Lvarmin 2=2.537e-01 Lval=2.629464e+00**N:33-35
22481 #30:10(N:30-39) Lhat=4.825e-04 Lvarmin 3=2.537e-01 Lval=2.629464e+00**N:33-36
22482 #30:11(N:30-40) Lhat=4.825e-04 Lvarmin 4=2.537e-01 Lval=2.629464e+00**N:33-37
22483 ##########
22484 ./ens2ge ${dn_regression} ${dn_regression} ${dn_regression} N:30-50:1 ib:0:0:0:1 M:1-20:1 k:${K} g:${g} T:${T} >/dev/
null #最適ユニット数探索
22485 ##global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22486 #38: 6(N:38-43) Lhat=5.889e-03 Lvarmin49=1.539e-02 Lval=3.645195e+00**N:39-42
22487 #30: 8(N:30-37) Lhat=4.805e-03 Lvarmin83=3.261e-02 Lval=3.859228e+00**N:31-36
```

```
22488 #38:15(N:38-52) Lhat=2.549e-03 Lvarmin199=9.518e-02 Lval=9.125e-02 Lval=3.430284e+00**N:39-51
22489 #30:14(N:30-43) Lhat=3.460e-03 Lvarmin237=1.090e-01 Lval=1.090e-01 Lval=3.680236e+00**N:31-42
22490 #44:46(N:44-89) Lhat=5.800e-04 Lvarmin836=2.463e-01 Lval=2.499e-01 Lval=2.780940e+00**N:45-88
22491 ###
22492 ./ens2ge ${dn_regression} $(dn_regression) N:30-50:1 ib:0:0:1 M:1-20:1 k:${K} g:${g} T:${T} >/dev/
null #最適ユニット数探索
22493 ##global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22494 #30: 3(N:30-32) Lhat=3.427e-02 Lvarmin 0=8.701e-30 Lvar0=8.701e-30 Lval=3.557289e+00**N:31-31
22495 #50:22(N:50-71) Lhat=1.270e-02 Lvarmin302=8.894e-02 Lvar0=8.894e-02 Lval=2.720587e+00**N:51-70
22496 #42:22(N:42-63) Lhat=1.259e-03 Lvarmin373=1.045e-01 Lvar0=1.045e-01 Lval=2.811621e+00**N:43-62
22497 #35:22(N:35-56) Lhat=1.543e-03 Lvarmin404=1.187e-01 Lvar0=1.187e-01 Lval=2.915208e+00**N:36-55
22498 ###
22499 ##Do from here
22500 export N1=36 N2=55 N=${N1} ens=
22501 export N1=51 N2=70 ens=
22502 export N1=36 N2=36 ens=
22503 export N1=31 N2=31 ens=       #
22504 export N1=31 N2=31 ens= #>>MSE---:2.215070e+02 NMSE---:2.190542e-01
22505 export N1=32 N2=32 ens= #>>MSE---:8.482830e+01 NMSE---:8.388997e-02
22506 export N1=33 N2=33 ens= #>>MSE---:7.062676e+01 NMSE---:6.984640e-02
22507 export N1=34 N2=34 ens= #>>MSE---:6.774110e+01 NMSE---:6.699097e-02
22508 export N1=35 N2=35 ens= #>>MSE---:9.399983e+01 NMSE---:9.294904e-02
22509 export N1=36 N2=36 ens= #>>MSE---:6.288071e+01 NMSE---:6.218441e-02
22510 export N1=37 N2=37 ens= #>>MSE---:8.743941e+01 NMSE---:8.647116e-02
22511 export N1=38 N2=38 ens= #>>MSE---:4.696035e+01 NMSE---:4.644034e-02
22512 export N1=39 N2=39 ens= #>>MSE---:4.696035e+01 NMSE---:4.644034e-02
22513 export N1=50 N2=50 ens= #>>MSE---:5.666294e+01 NMSE---:5.603549e-02
22514 export N1=60 N2=60 ens= #>>MSE---:8.482679e+01 NMSE---:8.388747e-02
22515 ###
22516 ##
22517 export N1=31 N2=34 ens= #>>MSE---:9.264342e+02 NMSE---:9.161755e-01
22518 export N1=39 N2=42 ens= #>>MSE---:1.070042e+03 NMSE---:1.058193e+00
22519 export N1=32 N2=33 ens= #>>MSE---:1.199918e+03 NMSE---:1.186631e+00
22520 export N1=32 N2=35 ens= #>>MSE---:9.207404e+02 NMSE---:9.105447e-01
22521 export N1=32 N2=36 ens= #>>MSE---:1.200897e+03 NMSE---:1.187599e+00
22522 export N1=32 N2=37 ens= #>>MSE---:9.480944e+01 NMSE---:9.375958e-02
22523 export N1=32 N2=38 ens= #>>MSE---:9.058365e+02 NMSE---:8.958059e-01
22524 export N1=32 N2=39 ens= #>>MSE---:3.462070e+02 NMSE---:3.423734e-01
22525 export N1=32 N2=41 ens= #>>MSE---:9.189151e+02 NMSE---:9.087396e-01
22526 export N1=32 N2=60 ens= #>>MSE---:5.078947e+02 NMSE---:5.022706e-01
22527 ###
22528 export N=${N1}
22529 while [ ${N} -le ${N2} ] ; do
22530 file=tmp/bestmspN${N}.net
22531 predfile=tmp/predictN${N}.dat
22532 if [ -e ${file} ] ; then
22533 echo $file exists. Omit calculation.
22534 else
22535 ##
22536 cat > param.dat << EOF
22537          #0:timeseries,1:chaos prepare_data() in my_function.c
22538 9  0  #channels
22539 ${dn_timeseries}
22540 2000 2200       #Ttrain,Ttotal: points in time of training and total data
22541 0 0 0 0         #y0min y0max y1min y1max for normalization
22542 in       #n_compare
22543 ${N}
22544 20       #n_compare
22545 0.5  3   #v_thresh v_min
22546 10       #v_ratio
22547 0.2      #width  window width
22548 ex       #execute
22549 1.5e-3  0.7  #i=0:online,i=1:batch, gamma0, entropy_thresh
22550 100         #iterations to execute
22551 10          #display
22552 quit
22553 EOF
22554 echo "Executing can2 for N=${N}"
22555 can2 <param.dat > /dev/null
22556 cp bestmsp.net ${file}
22557 cp predict.dat ${predfile}
22558 ##
22559 fi
22560 export ens=$ens" "${file}
22561 N=`expr ${N} + 1`
22562 done
22563 #########
22564 cat > param.dat << EOF
22565          #0:timeseries,1:chaos prepare_data() in my_function.c
22566 9  0  #channels
22567 ${dn_timeseries}
22568 2000 2200       #Ttrain,Ttotal: points in time of training and total data
```

```
22723 ############
22724 051211
22725 ./can2
22726 0                       #channels
22727 9                       #channels
22728 ./data/eguti-a.dat      #training file
22729 2000 2200               #Ttrain,Ttotal: points in time of training and total data
22730 0 0 0 0                 #y0min y0max y1min y1max for normalization
22731 in                      #
22732 52                      #n_cells storing vectors
22733 20                      #n_compare
22734 0.5 3                   #v_thresh v_min
22735 1.0                     #v_ratio
22736 0.2                     #width  window width
22737 ex                      #execute
22738 1 5e-3 0.7              #l=0:online,i=1:batch, gamma0, entropy_thresh
22739 100                     #iterations to execute
22740 nl                      #display
22741 bestmsp.net
22742 msp
22743
22744
22745 gamma0=5e-4T:10N:52>>MSE=-:6.273830e+01 NMSE=-:6.204357e-02
22746 gamma0=1e-3T:100N:52>>MSE=-:5.388490e+01 NMSE=-:5.328822e-02
22747 gamma0=5e-3T:100N:52>>MSE=-:4.155724e+01 NMSE=-:4.109706e-02***
22748 gamma0=1e-2T:100N:52>>MSE=-:4.731408e+01 NMSE=-:4.679016e-02
22749 gamma0=5e-3T:10N:52>>MSE=-:8.570549e+01 NMSE=-:8.475644e-02
22750 gamma0=5e-3T:10N:52>>MSE=-:8.570549e+01 NMSE=-:8.475644e-02
22751 gamma0=5e-3T:10N:40>>MSE=-:9.180860e+02 NMSE=-:9.079197e-01
22752 gamma0=5e-3T:10N:30>>MSE=-:3.749752e+02 NMSE=-:3.708229e-01
22753 gamma0=5e-3T:50N:30>>MSE=-:3.749752e+02 NMSE=-:3.708229e-01
22754 gamma0=1e-3T:50N:30>>MSE=-:7.932715e+01 NMSE=-:7.844873e-02
22755 gamma0=5e-3T:50N:40>>MSE=-:9.180860e+02 NMSE=-:9.079197e-01
22756
22757
22758
22759 ------------
22760 ./can2                  #0:timeseries,l:chaos prepare_data() in my_function.c
22761 9                       #channels
22762 ./data/eguti-a.dat      #training file
22763 2000 2200               #Ttrain,Ttotal: points in time of training and total data
22764 0 0 0 0                 #y0min y0max y1min y1max for normalization
22765 qu                      #
22766 cp tmp/train+test.dat  ./train+test.dat
22767
22768 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:3-3:1 ib:0:0:1 k:9 g:5e-4 T:10 >/dev/null #最適
コ二ッ卜数探柴
22769 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22771 63: 3(N:63-65) Lhat=1.637e-02 Lvarmin 0=1.198e-29 Lvar0=1.198e-29 Lval0=3.464665e+00**N:64-64
22772 68: 3(N:68-70) Lhat=1.720e-02 Lvarmin1=1.274e-29 Lvar1=1.274e-29 Lval1=3.732040e+00**N:65-55
22773 50: 3(N:50-52) Lhat=1.529e-02 Lvarmin14=1.295e-29 Lvar14=1.295e-29 Lval14=4.054251e+00**N:51-51
22774 22: 7(N: 2- 8) Lhat=3.213e-02 Lvarmin18=1.300e-29 Lvar18=1.300e-29 Lval18=3.304853e+00**N:71-71
22775 57: 3(N:57-63) Lhat=1.016e-02 Lvarmin18=1.311e-29 Lvar18=1.311e-29 Lval18=1.604134e+00**N:58-58
22776
22777 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:5-5:1 ib:0:0:2 k:9 g:5e-4 T:10 >/dev/null #最適
コ二ッ卜数探柴
22778 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22779 53: 5(N:53-57) Lhat=8.546e-02 Lvarmin 1=3.438e-29 Lvar0=3.438e-29 Lval0=3.732040e+00**N:55-55
22780 70: 5(N:70-74) Lhat=3.280e-02 Lvarmin 5=3.576e-29 Lvar0=3.576e-29 Lval0=3.294625e+00**N:72-72
22781 57: 5(N:57-61) Lhat=4.916e-02 Lvarmin 7=3.604e-29 Lvar0=3.604e-29 Lval0=3.591849e+00**N:59-59
22782 44: 5(N:44-50) Lhat=6.046e-02 Lvarmin14=7.074e-30 Lvar0=7.074e-30 Lval0=4.128588e+00**N:47-47
22783 48: 5(N:48-52) Lhat=4.973e-02 Lvarmin25=7.420e-30 Lvar0=7.420e-30 Lval0=1.765152e+01**N:5-5
22784 62: 5(N:62-66) Lhat=4.049e-02 Lvarmin20=3.705e-29 Lvar0=3.705e-29 Lval0=3.559589e+00**N:60-60
22785 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:7-7:1 ib:0:0:3 k:9 g:5e-4 T:10 >/dev/null #最適
コ二ッ卜数探柴
22786 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22787 18: 7(N:18-24) Lhat=8.260e-02 Lvarmin 1=6.613e-30 Lvar0=6.613e-30 Lval0=2.691e-29 Lval1=1.765152e+01**N:21-21
22788 68: 7(N:68-76) Lhat=6.504e-02 Lvarmin 9=7.028e-30 Lvar0=7.028e-30 Lval0=3.304859e+00**N:71-71
22789 70: 7(N:44-50) Lhat=6.046e-02 Lvarmin14=7.074e-30 Lvar0=7.074e-30 Lval0=4.128588e+00**N:47-47
22790 22: 7(N: 2- 8) Lhat=2.769e+00 Lvarmin25=7.420e-30 Lvar0=7.420e-30 Lval0=1.765152e+01**N:5-5
22791 57: 7(N:57-63) Lhat=7.145e-02 Lvarmin27=7.535e-30 Lvar0=7.535e-30 Lval0=3.559589e+00**N:60-60
22792 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:9-9:1 ib:0:0:4 k:9 g:5e-4 T:10 >/dev/null #最適
コ二ッ卜数探柴
22793 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22794  1: 9(N: 1- 9) Lhat=4.057e+00 Lvarmin 8=2.691e-29 Lvar0=2.691e-29 Lval0=1.765152e+01**N:5-5
22795 68: 9(N:68-76) Lhat=6.504e-02 Lvarmin15=2.731e-29 Lvar0=2.731e-29 Lval0=3.294625e+00**N:72-72
22796 57: 9(N:57-65) Lhat=8.611e-02 Lvarmin27=2.802e-29 Lvar0=2.802e-29 Lval0=3.544234e+00**N:61-61
22797 38: 9(N:38-46) Lhat=1.168e-01 Lvarmin31=2.827e-29 Lvar0=2.827e-29 Lval0=4.354537e+00**N:42-42
22798 44: 9(N:44-52) Lhat=7.393e-02 Lvarmin33=2.846e-29 Lvar0=2.846e-29 Lval0=4.129611e+00**N:48-48
22799 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:11-11:1 ib:0:0:15 k:9 g:5e-4 T:10 >/dev/null #最
適コ二ッ卜数探柴
```

```
22800 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22801 42:11(N:42-52) Lhat=1.189e-01 Lvarmin 5=3.108e-29 Lvar0=3.108e-29 Lval0=4.128588e+00**N:47-47
22802 70:11(N:70-80) Lhat=7.130e-02 Lvarmin12=3.136e-29 Lvar0=3.136e-29 Lval0=3.283933e+00**N:75-75
22803 37:11(N:37-47) Lhat=1.512e-01 Lvarmin17=3.187e-29 Lvar0=3.187e-29 Lval0=4.354537e+00**N:42-42
22804 35:11(N:35-45) Lhat=1.496e-01 Lvarmin19=3.196e-29 Lvar0=3.196e-29 Lval0=4.365211e+00**N:40-40
22805 30:11(N:57-67) Lhat=1.034e-01 Lvarmin21=3.212e-29 Lvar0=3.212e-29 Lval0=3.536903e+00**N:62-62
22806 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:13-13:1 ib:0:0:6 k:9 g:5e-4 T:10 >/dev/null #最
適コ二ッ卜数探柴
22807 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22808 29:13(N:29-41) Lhat=1.951e-01 Lvarmin 2=9.655e-30 Lvar0=9.655e-30 Lval0=4.431388e+00**N:35-35
22809 36:13(N:36-48) Lhat=1.751e-01 Lvarmin12=1.007e-29 Lvar0=1.007e-29 Lval0=4.354537e+00**N:42-42
22810 19:13(N:19-31) Lhat=4.637e-01 Lvarmin15=1.018e-29 Lvar0=1.018e-29 Lval0=4.747027e+00**N:25-25
22811 68:13(N:68-80) Lhat=8.601e-02 Lvarmin22=1.037e-29 Lvar0=1.037e-29 Lval0=3.306429e+00**N:74-74
22812 40:13(N:40-52) Lhat=1.495e-01 Lvarmin25=1.046e-29 Lvar0=1.046e-29 Lval0=4.147976e+00**N:46-46
22813 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:15-15:1 ib:0:0:7 k:9 g:5e-4 T:10 >/dev/null #最
適コ二ッ卜数探柴
22814 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22815 57:15(N:57-71) Lhat=1.524e-01 Lvarmin 8=4.309e-30 Lvar0=4.309e-30 Lval0=3.464665e+00**N:64-64
22816 28:15(N:28-42) Lhat=2.262e-01 Lvarmin21=4.586e-30 Lvar0=4.586e-30 Lval0=4.431388e+00**N:35-35
22817 67:15(N:67-81) Lhat=1.011e-01 Lvarmin29=4.862e-30 Lvar0=4.862e-30 Lval0=3.306429e+00**N:74-74
22818 35:15(N:35-49) Lhat=1.936e-01 Lvarmin40=4.977e-30 Lvar0=4.977e-30 Lval0=4.354537e+00**N:42-42
22819 16:15(N:16-30) Lhat=4.759e-01 Lvarmin46=5.092e-30 Lvar0=5.092e-30 Lval0=5.209941e+00**N:23-23
22820 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:21-21:1 ib:0:0:10 k:9 g:5e-4 T:10 >/dev/null #
最適コ二ッ卜数探柴
22821 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22822 25:21(N:25-45) Lhat=3.077e-01 Lvarmin20=4.021e-29 Lvar0=4.021e-29 Lval0=4.431388e+00**N:35-35
22823 36:21(N:36-56) Lhat=2.592e-01 Lvarmin24=4.053e-29 Lvar0=4.053e-29 Lval0=4.149976e+00**N:46-46
22824 64:21(N:64-84) Lhat=1.607e-01 Lvarmin34=4.132e-29 Lvar0=4.132e-29 Lval0=3.306429e+00**N:74-74
22825 21:21(N:21-41) Lhat=1.586e-01 Lvarmin44=4.152e-29 Lvar0=4.152e-29 Lval0=3.246947e+00**N:78-78
22826 32:21(N:32-52) Lhat=2.431e-01 Lvarmin52=4.268e-29 Lvar0=4.268e-29 Lval0=4.354537e+00**N:42-42
22827 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:25-25:1 ib:0:0:12 k:9 g:5e-4 T:10 >/dev/null #
最適コ二ッ卜数探柴
22828 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22829 57:25(N:57-81) Lhat=2.117e-01 Lvarmin 3=1.009e-29 Lvar0=1.009e-29 Lval0=3.322435e+00**N:69-69
22830 38:25(N:38-62) Lhat=3.176e-01 Lvarmin27=1.122e-29 Lvar0=1.122e-29 Lval0=4.064284e+00**N:50-50
22831 66:25(N:66-90) Lhat=1.875e-01 Lvarmin33=1.124e-29 Lvar0=1.124e-29 Lval0=3.246947e+00**N:78-78
22832 28:25(N:28-52) Lhat=2.822e-01 Lvarmin38=1.129e-29 Lvar0=1.129e-29 Lval0=4.365211e+00**N:40-40
22833 64:25(N:64-88) Lhat=1.906e-01 Lvarmin44=1.143e-29 Lvar0=1.143e-29 Lval0=3.279911e+00**N:76-76
22834 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:31-31:1 ib:0:0:15 k:9 g:5e-4 T:10 >/dev/null #
最適コ二ッ卜数探柴
22835 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22836 20:31(N:20-50) Lhat=4.676e-01 Lvarmin 9=2.396e-30 Lvar0=2.396e-30 Lval0=4.431388e+00**N:47-47
22837 32:31(N:32-62) Lhat=3.884e-01 Lvarmin13=2.396e-30 Lvar0=2.396e-30 Lval0=4.128588e+00**N:47-47
22838 35:31(N:35-65) Lhat=3.793e-01 Lvarmin18=2.443e-30 Lvar0=2.443e-30 Lval0=4.176745e+00**N:45-45
22839 63:31(N:63-93) Lhat=2.285e-01 Lvarmin30=2.512e-30 Lvar0=2.512e-30 Lval0=3.246947e+00**N:78-78
22840 30:31(N:30-70) Lhat=2.328e-01 Lvarmin34=2.585e-30 Lvar0=2.585e-30 Lval0=3.279911e+00**N:76-76
22841 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:41-41:1 ib:0:0:20 k:9 g:5e-4 T:10 >/dev/null #
最適コ二ッ卜数探柴
22842 ##global min of Lvar with local min of Lhat (9neighbour of (l1,ld) **Use this or the next)**
22843 27:41(N:27-67) Lhat=4.810e-01 Lvarmin 4=4.180e-29 Lvar0=4.180e-29 Lval0=4.128588e+00**N:47-47
22844 25:41(N:25-65) Lhat=4.801e-01 Lvarmin 8=4.208e-29 Lvar0=4.208e-29 Lval0=4.176745e+00**N:45-45
22845 58:41(N:58-98) Lhat=2.917e-01 Lvarmin15=4.219e-29 Lvar0=4.219e-29 Lval0=3.246947e+00**N:78-78
22846 70:41(N:70-110) Lhat=2.759e-01 Lvarmin17=4.251e-29 Lvar0=4.251e-29 Lval0=2.961341e+00**N:90-90
22847 30:41(N:30-70) Lhat=4.721e-01 Lvarmin25=4.277e-29 Lvar0=4.277e-29 Lval0=4.064284e+00**N:50-50
22848 ens2ge  ./train+test.dat  ./train+test.dat N:1-70:1 m:41-41:1 ib:0:0:15 k:9 g:5e-4 T:10 >/dev/null #
最適コ二ッ卜数探柴
22849
22850
22851 ./can2                  #0:timeseries,l:chaos prepare_data() in my_function.c
22852 0                       #channels
22853 9                       #channels
22854 ./data/eguti-a.dat      #training file
22855 2000 2200               #Ttrain,Ttotal: points in time of training and total data
22856 0 0 0 0                 #y0min y0max y1min y1max for normalization
22857 in                      #
22858 52                      #n_cells storing vectors
22859 20                      #n_compare
22860 0.5  3                  #v_thresh v_min
22861                         #v_ratio
22862 0.4                     #width  window width
22863 sr                      #sr    #show training data show_data_parms(train);
22864 no                      #no
22865 sn                      #show network params
22866 sb                      #show batch params
22867 ex                      #execute
22868 1 5.000000e-04 7.000000e-01    #<0:online,l:batch>, <gamma0>, <entropy_thresh>
22869 10                      #iterations to execute
22870 nl                      #display
22871 nl
22872 bestmsp.net
22873 msp
22874
22875
```

```
22876
22877
22878
22879  ユニット数探索
22880  ens2ge ./train+test.dat ./train+test.dat N:1-55:1 m:3-3:1 ib:0:0:0:1 k:9 g:5e-4 T:10 >/dev/null #最適
       #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**yuka
22881  50: 3(N:50-52) Lhat=1.529e-02 Lvarmin4=1.288e-29 Lval=4.054251e+00**N:51-51
22882  31: 3(N:31-33) Lhat=1.652e-02 Lvarmin10=1.336e-29 Lval=4.490052e+00**N:32-32
22883  39: 3(N:39-41) Lhat=1.299e-02 Lvarmin1=1.385e-29 Lval=4.365211e+00**N:40-40
22884  44: 3(N:44-46) Lhat=1.881e-02 Lvarmin24=1.410e-29 Lval=4.176745e+00**N:45-45
22885  54: 3(N:54-56) Lhat=2.059e-02 Lvarmin27=1.415e-29 Lval=3.732040e+00**N:55-55
22886  ens2ge ./train+test.dat ./train+test.dat N:1-70:1 m:3-3:1 ib:0:0:0:1 k:9 g:5e-4 T:10 >/dev/null #最適
22887  ユニット数探索
22888
22889  ./can2                    #0:timeseries,1:chaos prepare_data() in my_function.c
22890  0          #channels
22891  9
22892  ./data/a3000.dat  #training file
22893  2000 2200          #Ttrain,Ttotal: points in time of training and total data
22894  0 0 0 0            #y0min y0max y1min y1max for normalization
22895  qu
22896  cp tmp/train+test.dat ./train+test.dat
22897  #
22898  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**yuka
22899  31: 3(N:31-33) Lhat=1.786e-02 Lvarmin1=2=1.270e-29 Lval=4.510962e+00**N:32-32
22900  1: 3(N: 1- 3) Lhat=2.237e+00 Lvarmin1=6=1.320e-29 Lval=2.139330e+01**N:2-2
22901  40: 3(N:40-42) Lhat=1.553e-02 Lvarmin1=1.332e-29 Lval=4.334125e+00**N:41-41
22902  44: 3(N:44-46) Lhat=1.399e-02 Lvarmin22=1.385e-29 Lval=4.146070e+00**N:45-45
22903  50: 3(N:50-52) Lhat=1.244e-02 Lvarmin26=1.408e-29 Lval=3.969603e+00**N:51-51
22904
22905  ens2ge ./train+test.dat ./train+test.dat N:1-70:1 m:3-6:1 ib:0:0:0:1 k:9 g:5e-4 T:10 >/dev/null #最適
22906  ユニット数探索
22907  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**yuka
22908  57: 3(N:57-59) Lhat=5.898e-03 Lvarmin15=1.360e-29 Lval=3.639333e+00**N:58-58
22909  20: 3(N:20-22) Lhat=7.967e-03 Lvarmin33=1.438e-29 Lval=5.283940e+00**N:21-21
22910  9: 3(N: 9-11) Lhat=2.552e-01 Lvarmin43=1.449e-29 Lval=8.437267e+00**N:10-10
22911  3: 3(N: 4- 6) Lhat=1.062e-01 Lvarmin64=1.578e-29 Lval=1.464747e+01**N:5-5
22912  30: 5(N:30-34) Lhat=6.765e-03 Lvarmin106=7.937e-03 Lval=7.937e-03 Lval=4.506730e+00**N:31-33
22913  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**yuka
22914  57: 3(N:57-59) Lhat=1.016e-02 Lvarmin18=1.311e-29 Lval=3.604134e+00**N:58-58
22915  63: 4(N:63-66) Lhat=8.505e-03 Lvarmin70=1.692e-03 Lval=3.459597e+00**N:64-65
22916  31: 4(N:31-34) Lhat=9.348e-03 Lvarmin81=3.680e-03 Lval=4.480961e+00**N:32-33
22917  53: 4(N:53-56) Lhat=1.604e-02 Lvarmin93=5.261e-03 Lval=3.730632e+00**N:54-55
22918  38: 6(N:38-43) Lhat=4.669e-03 Lvarmin111=8.505e-03 Lval=4.354464e+00**N:39-42
22919  ens2ge ./train+test.dat ./train+test.dat N:1-70:1 m:3-3:1 ib:0:0:0:1 k:9 g:5e-4 T:10 >/dev/null #最適
22920  ユニット数探索
22921  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22922  63: 3(N:63-65) Lhat=1.637e-02 Lvarmin 0=1.198e-29 Lval=3.464665e+00**N:64-64
22923  68: 3(N:68-70) Lhat=1.720e-02 Lvarmin18=1.274e-29 Lval=1.244355e+00**N:69-69
22924  50: 3(N:50-52) Lhat=1.529e-02 Lvarmin1=1.295e-29 Lval=4.054251e+00**N:51-51
22925  44: 3(N:44-46) Lhat=1.881e-02 Lvarmin18=1.410e-29 Lval=4.176745e+00**N:45-45
22926  57: 3(N:57-59) Lhat=1.016e-02 Lvarmin18=1.311e-29 Lval=3.604134e+00**N:58-58
22927  ------
22928  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22929  50: 3(N:50-52) Lhat=1.529e-02 Lvarmin 3=1.295e-29 Lval=4.054251e+00**N:51-51
22930  31: 3(N:31-33) Lhat=1.652e-02 Lvarmin10=1.343e-29 Lval=4.490052e+00**N:32-32
22931  39: 3(N:39-41) Lhat=1.289e-02 Lvarmin24=1.380e-29 Lval=4.365211e+00**N:40-40
22932  44: 3(N:44-46) Lhat=1.881e-02 Lvarmin24=1.410e-29 Lval=4.176745e+00**N:45-45
22933  54: 3(N:54-56) Lhat=2.059e-02 Lvarmin26=1.413e-29 Lval=3.732040e+00**N:55-55
22934
22935  ./can2                    #0:timeseries,1:chaos prepare_data() in my_function.c
22936  0          #channels
22937  9          #eguti-a.dat  #training file
22938  2000 2200          #Ttrain,Ttotal: points in time of training and total data
22939  0 0 0 0            #y0min y0max y1min y1max for normalization
22940  #
22941  in         #n_cells storing vectors
22942  52         #n_compare
22943  0.5  3     #v_thresh v_min
22944  10         #v_ratio
22945  0.4        #width  window width
22946  n          #no
22947  sr         #show training data show_data_parms(train);
22948  sn         #show network params
22949  sb         #show batch params
22950  ex         #execute
22951  1          #i=0:online,i=1:batch
22952
22953
```

```
22954  100        #iterations to execute
22955  10         #display
22956  nl
22957  bestmsp.net
22958  msp
22959  ens2ge tmp/train+test.dat tmp/train+test.dat N:1-55:1 m:3-20:1 ib:0:0:0:0 k:9 w:0.4 >/dev/null
22960
22961  061129
22962  現在までの実験結果と疑問点
22963  (1)
22964
22965  make clean; make "GPU=1"   <-- 実行中に図を表示したいとき、
22966  can2                       #0:timeseries,1:chaos prepare_data() in my_function.c
22967
22968  12  0  0                   #channels
22969  ./data/a3000.dat           #training file
22970  2001 2200          #number of training data get_data_parms in my_function.c
22971  0 0 0 0            #ymin0 ymax0 ymin ymax:No nomalization if ymin0==0 && ymax0=0.
22972  in
22973  21                 #n_cells storing vectors
22974                     #n_compare
22975  0.5  3 0           #v_thresh in [0,1], v_min, vmin2
22976  10                 #v_ratio  Value Ratio for reinit
22977  0.2                #width  window width
22978  sr                 #show training data show_data_parms(train);
22979  n                  #no
22980  sn                 #show network params
22981  sb                 #show batch params
22982  ex                 #execute
22983  1  5.000000e-02 7.000000e-01 # Learning Mode (0:online,1:batch), gamma0, entropy_thresh
22984  100                #iterations to execute
22985  100 50 350         #表示回数, rot_x, rot_z
22986  nl
22987  bestmsp.net
22988  msp                #multi-step prediction of test data
22989  #msp
22990  #msp0              #multi-step prediction of training data
22991  #ssp0              #single-step prediction of training data
22992  (2)
22993  ens2ge train+test.dat train+test.dat N:1-20:1 m:3-20:1 ib:0:0:0:0 k:12 >/dev/null
22994  #global min of Lvar with local min of Lhat (9neighbour of (11,1d) **Use this or the next)**
22995  19: 7(N:19-25) Lhat=9.494e-04 Lvarminl3=7.897e-02 Lval=7.897e-02 Lval=3.800875e+00**N:20-24
22996  19:20(N:19-38) Lhat=5.569e-04 Lvarminl66=2.077e-01 Lval=2.077e-01 Lval=3.305439e+00**N:20-37
22997  16:20(N:16-35) Lhat=1.089e-03 Lvarminl00=2.782e-01 Lval=2.782e-01 Lval=3.399093e+00**N:17-34
22998  10:20(N:12-31) Lhat=1.225e-03 Lvarminl78=4.207e-01 Lval=4.207e-01 Lval=4.207e-01 Lval=3.574863e+00**N:13-30
22999  10:20(N:10-29) Lhat=1.177e-03 Lvarminl210=4.866e-01 Lval=4.866e-01 Lval=3.711434e+00**N:11-28
23000  t:train+test v:train+test 19:20(N:19-38) Lhatmin5.568881e-04 Lvalmin3.305439e+00
23001  t:train+test v:train+test 20:20(N:20-39) Lhat=5.921234e-04 Lvalmin=3.254410e+00
23002  t:train+test v:train+test 20:3(N:20-22) Lvarmin=1.023905e-02 Lvarval=3.946501e+00
23003  t:train+test v:train+test 20:20(N:20-39) Lvar=2.093391e-01 Lvarvalmin=3.463749e+00
23004  ensrs train+test.dat -1:train+test.dat 1:1 ib:0:0:0:0:0 N:21-38 k:12 > /dev/null
23005  # 0 3.2544096e+00 1.7325950e-01  97   39 5.9212337e-04 #n Ltest Ltrain bestIT Nr Lhat+
23006  # 3.2544096e+00 1.7325950e-01  97   39 5.9212337e-04 #n Ltest Ltrain bestIT Nr Lhat+
23007
23008  040519
23009  (1)
23010  dataconvl ./data/CoordData_Cube.dat > ./data/CoordData_Cube2.dat
23011  gnuplot
23012  rx=50;rz=300
23013  set view rx,rz; splot [-100:400][-150:200] "./data/CoordData_Cube2.dat"  using 1:2:3 w l
23014  pause 1; rz= rz+20;  set view rx,rz; replot
23015  # 0 3.2544096e+00 1.7325950e-01  97   39 5.9212337e-04 #n Ltest Ltrain bestIT Nr Lhat+
23016  ./can2                    #0:時系列,1:関数,3:ijcnn04,4:距離データ
23017  2  0                      #次元 k1 k2
23018  ./data/CoordData_Cube2.dat
23019  -100 400 -150 200 x0min,x0max,x1min,x1max (range for test) -1500 1500 -600 1600
23020  145 1088  0 1     出力の正規化 ymin0 ymax0 → ymin1 ymax1
23021  -150 400  0 1     入力の正規化 x0min0 x0max0 → x0min x0max
23022  -150 200  0 1     入力の正規化 x1min0 x1max0 → x1min,x1max
23023  0 0 #r1 r2          実行
23024  ./can2                    #0:時系列,1:関数
23025  500                #ネットの初期化
23026  2  0                      #セル数
23027  6                  #n_compare
23028  0.2 4 0            v_thresh vmin vmin2
23029  5                  v_ratio
23030  0.2                width,gamma   #window width
23031  ex                 実行
23032  n  1.0.05 0.7      #0:online,1:batch>, <gamma0>, <entropy_thresh>
23033  100                i_times学習回数
23034  100 50 5           表示回数, rot_x, rot_z
23035  qu
       gnuplot
```

```
23036 rx=50:rz=300
23037 set view rx,rzz; splot [-100:400][-150:200] "./data/CoordData_Cube1.dat" using 1:2:3 w l, "./result/
FCoordData_Cube2+tr13526+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+batch/funcSSP+t100-1.dat" using 1:2:3  t "y
^" w l
23038 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23039 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23040 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23041 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23042 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23043 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23044 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23045 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23046 040516e evening
23047 (1)gnuplotでデータ表示を動的にする方法
23048 gnuplot
23049 rx=50:rz=300
23050 set view rx,rz; splot [-100:400][-150:200] "./data/CoordData_Cube1.dat"  using 1:2:3 w l
23051 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23052 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23053 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23054 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23055 以上をカットし、ペーストする。
23056 gnuplot
23057 rx=10:rz=300
23058 set view rx,rz; splot [-100:400][-150:200] "./data/CoordData_Cube1.dat"  using 1:2:3 w l
23059 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23060 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23061 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23062 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23063 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23064 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23065 (3) 表示角度を学習実行時に設定できるようにした。
23066 (→下の"100 50 5"  表示回数, rot_x, rot_z] を参照。)
23067 実行例:
23068 ./can2
23069 4      #0:時系列,1:関数,3:ijcmn04,4:距離データ
23070 2 0    次元 k1 k2
23071 ./data/CoordData_Cube.dat
23072 -100 400 -150 200 x0min,x0max,x1min,x1max (range for test) -1500 1500 -600 1600
23073 145 1088 0 1   出力の正規化 ymin0 ymax0 →ymin1 ymax1
23075 -100 400 0 1   入力の正規化 x0min0 x0max0 →x0min x0max
23076 -150 200 0 1   入力の正規化 x1min0 x1max0 →x1min,x1max
23078 0 0 #r1 r2
23079 in       ネットの初期化
23080 500
23081 6       n_compare
23082 0.2 4 0    v_thresh vmin vmin2
23083 5       v_ratio
23083 0.2    width,gamma  #window width
23084 ex     実行
23085 1 0.05 0.7   #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23086 100     i_times 学習回数
23087 100 50 5    表示回数, rot_x, rot_z
23088 qu
23089 gnuplot
23090 rx=10:rz=300
23091 set view rx,rz; splot [-100:400][-150:200] "./data/CoordData_Cube1.dat" using 1:2:3 w l, "result/FC
oordData_Cube+tr13206+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+batch/funcSSP+t100-1.dat" using 1:2:3  t "y^"
w l
23093 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23094 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23095 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23096 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23097 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23098 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23099 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23100 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23101 plot [-0.2:1.2][-0.2:1.2] "./result/FCoordData_Cube+tr13206+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+
batch/net_w+t100.dat" using 1:2  t "w" w p
23102 (3) 以前、両田くんにもらった 3Dmeasure.dat を学習させてみた。
23104 前処理:
23105 make datasep2 ← 3Dmeasure.dat を gunplot と can2 で読み込み可能形式にする。
23106 ./datasep2 ./data/3Dmeasure.dat >./data/3Dmeasure1.dat
23107 gnuplot
23108 rx=10:rz=0
23109 set view rx,rz; splot [1.3:2.0][90:250] "./data/3Dmeasure1.dat"   using 1:2:3 w l
23110 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23111 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23112 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
```

```
23113 ./can2
23114 4      #0:時系列,1:関数,3:ijcmn04,4:距離データ
23115 2 0    次元 k1 k2
23116 ./data/3Dmeasure1.dat
23117
23118 1.3 2.0 90 250 x0min,x0max,x1min,x1max (range for test)
23119 500 1100 0 1   出力の正規化 ymin0 ymax0 →ymin1 ymax1
23120 1.3 2.0 0 1   入力の正規化 x0min0 x0max0 →x0min x0max
23121 90 250 0 1   入力の正規化 x1min0 x1max0 →x1min,x1max
23122 0 0 #r1 r2
23123 in       ネットの初期化
23124 500
23125 6       n_compare
23126 0.2 4 0    v_thresh vmin vmin2
23127 5       v_ratio
23128 0.2    width,gamma  #window width
23129 ex     実行
23130 1 0.05 0.7   #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23131 100     i_times 学習回数
23132 100 10 15    表示回数, rot_x, rot_z
23133 qu
23134 gnuplot
23135 rx=10:rz=300
23136 set view rx,rz; splot [1.3:2.0][90:250] "./data/3Dmeasure1.dat"    using 1:2:3 w l, "./result/F3Dmeas
urel+tr25921+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+batch/funcSSP+t100-1.dat" using 1:2:3  t "y" w l
23137 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23138 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23139 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23140 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23141 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23142 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23143 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23144 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23145 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23146 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23147 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23148 pause 1; rz= rz>359 ? 0 : rz+20; set view rx,rz; replot
23149
23150 plot [-0.2:1.2][-0.2:1.2] "./result/F3Dmeasure1+tr25921+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+batc
h/net_w+t100.dat" using 1:2  t "w" w p
23151
23152 040516
23153 (1) 入力変数の正規化アルゴリズムを修正した。
23154   各変数 x0,x1 について正規化するようにした。
23155  (以前は全変数の min と max を使っていた)
23156 (2) データ表示
23157 splot [1.3:2.2][100:250] "3Dmeasure.dat" using 2:3:1 w l
23158 make datasep (datasep.c ← gnuplot用に1水平スキャンデータ毎に改行)
23159 ./datasep ./data/CoordData_Cube.dat >./data/CoordData_Cube1.dat
23160 gnuplot
23161 set view 10.0; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23162 set view 50.5; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23163 set view 50.15; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23164 set view 50.10; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23165 set view 50.10; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23166 set view 50.10; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2:3 w l
23167 set view 50.350; splot [-100:400][-150:200]  "./data/CoordData_Cube1.dat" using 1:2 w p
23168 plot "./data/CoordData_Cube1.dat" using 1:2 w p
23169 ← wrapplot/plot.c に set view 50,5を加えた。
23170
23171 (4)実行例
23172 コンパイル
23173 make clean; make "GPLT=1"    <-- 実行中に図を表示したいとき
23174 make clean; make "GPLT=0"    <-- 実行中に図を表示したくないとき
23175 実行
23176 ./can2
23177 4      #0:時系列,1:関数,3:ijcmn04,4:距離データ
23178 2 0    次元 k1 k2
23179 ./data/CoordData_Cube.dat
23180 -100 400 -150 200 x0min,x0max,x1min,x1max (range for test) -1500 1500 -600 1600
23181 145 1088 0 1   出力の正規化 ymin0 ymax0 →ymin1 ymax1
23182 -100 400 0 1   入力の正規化 x0min0 x0max0 →x0min x0max
23183 -150 200 0 1   入力の正規化 x1min0 x1max0 →x1min,x1max
23184 0 0 #r1 r2
23185 in       ネットの初期化
23186 500
23187 6       n_compare
23188 0.2 4 0    v_thresh vmin vmin2
23189 5       v_ratio
23190 0.2    width,gamma  #window width
23191 ex     実行
23192 1 0.05 0.7   #<0:online,1:batch>, <gamma0>, <entropy_thresh>
```

```
23193  100          i_times 学習回数
23194  100 50 5     表示回数, rot_x, rot_z
23195  qu
23196
23197  500->>100MSE1.442e+02NMSE08.28e-03MSEtr7.89e-05N500k2wo0.2vm4:0
23198  以上の結果を使って以下を実行して確認：
23199  gnuplot
23200  set view 50,5; splot [-100:400][-150:200] "./data/CoordData_Cube1.dat" using 1:2:3 w l, "result/FCo
ordData_Cube+tr13206+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+batch/funcSSP+t100-1.dat" using 1:2:3 t "y" w
1
23201
23202  plot [-0.2:1.2][-0.2:1.2] "./result/FCoordData_Cube+tr13206+T100+K2+N500+NC6+vt0.2+vm4:0+vr5.0+w0.2+
batch/net_w+t100.dat" using 1:2   t "w" w p
23203
23204  (注意：以上の実行例では、安定した学習を行うため
23205  入力出力変数x1,x2,yの領域を[0,1]に正規化して学習させています。
23206  予測結果や予測誤差は逆変換して表示していますが、
23207  学習された荷重wi1,wi2は正規化された表示します。
23208  なお、実行後は表示が消えますが、結果は./result/の
23209  下のディレクトリに保存されています。（詳しくは沢さんが知っています）。
23210  また画面表示される予測結果Single-Step Prediction の 真値 y は、
23211  51×51の正方格子点(xi,yi)に最も近いデータ点の値としているので本当の真値
23212  ではありません。
23213
23214  040514
23215  (1)距離データ処理関数 load_data_RANGEDATA()を追加した：
23216  距離データの一部の矩形領域を処理するようにした。
23217  (2)コンパイル
23218     make clean; make "GPLT=1"    <-- 実行中に図を表示したいとき、
23219     make clean; make "GPLT=0"    <-- 実行中に図を表示したくないとき
23220  (3)データの確認
23221  gnuplot
23222  set data style lines
23223  splot "./data/CoordData_Cube.dat" using 1:2:3
23224  set data style points
23225  plot [-100:400][-300:200] "./data/CoordData_Cube.dat" using 1:2
23226  (4)実行例
23227  ./can2
23228  4          #0:時系列,1:関数,3:ijcmn04,4:距離データ
23229  2 0        次元
23230  ./data/CoordData_Cube.dat
23231  -100 400 -150 200 xlmin,xlmax,x2min,x2max (range for test) -1500 1500 -600 1600
23232  145 1088 0 1   出力の正規化 ymin0 ymax0 →ymin1 ymax1
23233  -150 400 0 1   入力の正規化 ximin0 ximax0 →ximin ximax
23234  0 0 #r1 r2
23235  in         ネットの初期化
23236  1000       セル数
23237  6          n_compare
23238  0.2 4 0    v_thresh vmin vmin2
23239  5          v_ratio
23240  0.2        width,gamma  #window width
23241  ex         実行
23242  1 0.05 0.75  #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23243  10         i_times 学習回数
23244  100        表示回数
23245  qu
23246  (注意：以上の実行例では、安定した学習を行うため
23247  入力出力変数x1,x2,yの領域を[0,1]に正規化して学習させています。
23248  予測結果や予測誤差は逆変換して表示していますが、
23249  学習された荷重wi1,wi2は正規化された表示します。
23250  なお、実行後は表示が消えますが、結果は./result/の
23251  下のディレクトリに保存されています。（詳しくは沢さんが知っています）。
23252  また画面表示される予測結果Single-Step Prediction の 真値 y は、
23253  51×51の正方格子点(xi,yi)に最も近いデータ点の値としているので本当の真値
23254  ではありません。
23255
23256  040513
23257  make mkrangetestdata
23258  mkrangetestdata -500 500 100 -500 1200 100 > ./data/rangetest.dat
23259  mkrangetestdata -1500 1500 100 -600 1600 100 > ./data/rangetest.dat
23260  mkrangetestdata -750 930 100 -1122 1433 100 > ./data/rangetest.dat
23261  mkrangetestdata -200 200 100 -500 500 100 > ./data/rangetest25.dat
23262
23263  ./can2
23264  4          #0:時系列,1:関数,3:ijcmn04,4:RangeData
23265  2 0        次元
23266  ./data/CoordData_Cube.dat
23267  -100 350 -300 150 xmin,xmax,ymin,ymax (range for test) -1500 1500 -600 1600
23268  0 0 0 0    正規化パラメタ y0min y0max y1min y1max
23269  in         ネットの初期化
23270  500        セル数
23271  6          n_compare
```

```
23272  0.2 3 0    v_thresh vmin vmin2
23273  5          v_ratio
23274  0.2        width,gamma  #window width
23275  ex         実行
23276  1 0.05 0.80 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23277  10         i_times 学習回数
23278  10         表示回数
23279  qu
23280
23281  ./can2
23282  4          #0:時系列,1:関数,
23283  2 0        次元
23284  ./data/CoordData_Cube.dat
23285  ./data/rangetest25.dat
23286  0 0 0 0    正規化パラメタ y0min y0max y1min y1max
23287  in         ネットの初期化
23288  500        セル数
23289  6          n_compare
23290  0.2 3 0    v_thresh vmin vmin2
23291  5          v_ratio
23292  0.2        width,gamma  #window width
23293  ex         実行
23294  1 0.05 0.80 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23295  10         i_times 学習回数
23296  10         表示回数
23297  qu
23298
23299  ./can2
23300  4          #0:時系列,1:関数,3:ijcmn04,4:RangeData
23301  2 0        次元
23302  ./data/CoordData_Cube.dat
23303  -200 200 -500 500 xmin,xmax,ymin,ymax (range for test) -1500 1500 -600 1600
23304  0 0 0 0    正規化パラメタ y0min y0max y1min y1max
23305  in         ネットの初期化
23306  100        セル数
23307  6          n_compare
23308  0.2 3 0    v_thresh vmin vmin2
23309  5          v_ratio
23310  0.2        width,gamma  #window width
23311  ex         実行
23312  1 0.05 0.80 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23313  10         i_times 学習回数
23314  10         表示回数
23315  qu
23316
23317
23318  ./can2
23319  4          #0:時系列,1:関数,3:ijcmn04,4:RangeData
23320  2 0        次元
23321  ./data/CoordData_Cube.dat
23322  -200 200 -500 500 xmin,xmax,ymin,ymax (range for test) -1500 1500 -600 1600
23323  145 1088 0 1   正規化パラメタ y0min y0max y1min y1max
23324  -1122 1432 0 1  正規化パラメタ xmin0 xmax0 xmin xmax
23325  0 0 #r1 r2
23326  in         ネットの初期化
23327  100        セル数
23328  6          n_compare
23329  0.2 3 0    v_thresh vmin vmin2
23330  5          v_ratio
23331  0.2        width,gamma  #window width
23332  ex         実行
23333  1 0.05 0.80 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23334  10         i_times 学習回数
23335  10         表示回数
23336  qu
23337  kterm&
23338  cd ./result/FCoordData_Cube+tr16080l+Tl0+K2+Nl00+NC6+vt0.2+vm3:0+vr5.0+w0.2+batch; gnuplot funcSSP+t
10.gpl
23339
23340  ./can2
23341  4          #0:時系列,1:関数,
23342  2 0        次元
23343  ./data/CoordData_Cube.dat
23344  ./data/rangetest25.dat
23345  145 1088 0 1   正規化パラメタ y0min y0max y1min y1max
23346  -1122 1432 0 1  正規化パラメタ xmin0 xmax0 xmin xmax
23347  0 0 #r1 r2
23348  in         ネットの初期化
23349  100        セル数
23350  6          n_compare
23351  0.2 3 0    v_thresh vmin vmin2
23352  5          v_ratio
```

```
23353  0.2    width,gamma    #window width
23354  ex           実行
23355  1  0.05  0.80   #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23356  10         i_times 学習回数
23357  10         表示回数
23358  qu
23359
23360
23361  040510
23362  sh bench2b03ieice.sh
23363  sh bench2o03ieice.sh
23364  040310.log  040311e.log  040510f02.log  040510f03o.log  040510f11o.log
23365  040310.log  040311n.log  040510f03.log  040510f11.log
23366
23367  040426
23368  まず、  make clean; make "GPLT=1"   <-- 実行中に図を表示したいとき、
23369        make clean; make "GPLT=0"   <-- 実行中に図を表示したくないとき
23370  をして、例えば bench2b.sh または以下を行う。
23371  ./can2
23372
23373  2      #0:時系列,1:関数
23374  1      次元
23375  ./data/07train1e3.dat
23376  ./data/07test.dat
23377  0  0  0  0   正規化パラメタ  y0min y0max y1min y1max
23378  in       ネットの初期化
23379  100      セル数
23380  6      n_compare
23381  0.2  3  0   v_thresh vmin vmin2
23382  5      v_ratio
23383  0.1  0.05  width,gamma    #window width
23384  ex           実行
23385  1  0.05  0.80  #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23386  100      i_times 学習回数
23387  100      表示回数
23388  qu
23389
23390  040310
23391  (1) make "GPLT=1"
23392  (2) 結果は ./result/の下に
23393  040311
23394    net->nentropy_thresh=LA(net->n_cells,v,0.75,100,0.90,500);
23395  see 040311e.log
23396  batch
23397  D=1e3
23398
23399  >>22test3.5327e-04,74train7.4276e-05N100k2w0.1vm1:0 0m4.950s
23400  >>84test3.8918e-04,100train7.6028e-05N100k2w0.1vm2:0 0m37.300s
23401  >>17test3.4486e-04,89train7.7138e-05N100k2w0.1vm4:0
23402  >>29test2.6159e-04,80train9.2993e-05N100k2w0.1vm5:0
23403  >>21test3.1888e-04,100train1.0776e-04N100k2w0.1vm6:0
23404  >>100test3.1089e-04,99train1.3890e-04N100k2w0.1vm7:0
23405  >>80test2.7536e-04,38train4.9048e-05N100k2w0.1vm3:0 noise0
23406  >>18test3.0627e-04, 99train5.7393e-05N100k2w0.1vm3:0 0m5.230s
23407  >>24test4.7916e-04,100train2.5782e-05N200k2w0.1vm3:0 0m10.230s
23408  >>52test7.5000e-04,100train2.5906e-05N300k2w0.1vm3:0 0m15.500s
23409  >> 7test2.2930e-04,100train1.2289e-04N400k2w0.1vm3:0 0m22.190s
23410  >> 5test5.8345e-04,100train1.4024e-05N500k2w0.1vm3:0 0m29.430s
23411  D=5e3
23412  >>96test8.4962e-05, 85train9.6303e-05N100k2w0.1vm3:0 0m17.610s
23413  >>44test4.0073e-05, 96train4.5203e-05N200k2w0.1vm3:0 0m37.300s
23414  >>50test3.4081e-05, 99train3.7600e-05N300k2w0.1vm3:0 0m55.300s
23415  >>20test3.7368e-05, 15train3.7836e-05N400k2w0.1vm3:0 0m47.770s
23416  >> 5test5.0089e-05,100train2.7924e-05N500k2w0.1vm3:0 1m29.430s
23417  D=1e4
23418  >>55test6.6669e-05,100train7.6892e-05N100k2w0.1vm3:0 0m33.370s
23419  >>95test2.4903e-05, 92train4.5406e-05N200k2w0.1vm3:0 1m11.220s
23420  >>82test1.9685e-05, 98train3.9723e-05N300k2w0.1vm3:0 1m45.030s
23421  >>55test1.8372e-05,100train3.4113e-05N400k2w0.1vm3:0 2m18.160s
23422  >>51test1.8074e-05,100train3.1159e-05N500k2w0.1vm3:0 2m50.550s
23423  D=5e4
23424  >>96test2.0286e-05, 98train6.1533e-05N100k2w0.1vm3:0 0m16.010s
23425  >>99test1.4672e-05, 97train4.5205e-05N200k2w0.1vm3:0 5m35.510s
23426  >>96test7.6037e-06, 99train3.8442e-05N300k2w0.1vm3:0 8m16.360s
23427  >>69test6.5563e-06, 99train3.6585e-05N400k2w0.1vm3:0 10m56.150s
23428  >>99test5.1274e-06, 96train3.5157e-05N500k2w0.1vm3:0 13m37.050s
23429  online
23430  D=1e3
23431  >> 41test4.6537e-04,100train1.0572e-04N100k2w0.1vm3:0 0m16.000s
23432  >> 70test6.0533e-04,100train6.7116e-05N200k2w0.1vm3:0 0m31.120s
23433  >>100test5.6474e-04,100train1.9377e-05N300k2w0.1vm3:0 0m46.230s
23434  >>100test9.3572e-04,100train8.3702e-06N400k2w0.1vm3:0 1m1.460s
```

```
23435  >> 35test9.9502e-04,100train2.7464e-06N500k2w0.1vm3:0 1m16.290s
23436  D=5e3
23437  >>100test1.0583e-04, 98train9.3564e-05N100k2w0.1vm3:0 1m12.830s
23438  >>100test7.1262e-05,100train7.7752e-05N200k2w0.1vm3:0 2m22.290s
23439  >> 97test5.2127e-05, 99train5.2846e-05N300k2w0.1vm3:0 3m32.210s
23440  >> 17test6.0299e-05,100train4.0370e-05N400k2w0.1vm3:0 4m41.610s
23441  >> 17test4.5329e-05, 98train3.3946e-05N500k2w0.1vm3:0 5m51.120s
23442  D=1e4
23443  >> 56test5.4194e-05, 94train9.3962e-05N100k2w0.1vm3:0 2m23.780s
23444  >>100test6.0600e-05, 99train7.2820e-05N200k2w0.1vm3:0 4m41.220s
23445  >> 84test4.5433e-05, 97train5.5646e-05N300k2w0.1vm3:0 6m59.020s
23446  >> 26test3.6985e-05, 98train4.7309e-05N400k2w0.1vm3:0 9m39.120s
23447  >> 92test3.1103e-05, 97train3.9952e-05N500k2w0.1vm3:0 11m33.470s
23448  D=5e4
23449  >> 96test3.2184e-05, 99train6.5059e-05N100k2w0.1vm3:0 11m46.240s
23450  >> 80test1.9184e-05, 99train5.2492e-05N200k2w0.1vm3:0 23m8.790s
23451  >>100test1.8349e-05,100train5.1622e-05N300k2w0.1vm3:0 34m26.720s
23452  >>100test1.3111e-05,100train4.7674e-05N400k2w0.1vm3:0 46m59.210s
23453  >>56test1.2118e-05, 98train4.2992e-05N500k2w0.1vm3:0 57m44.690s
23454  D=1e4
23455  >>96test3.2184e-05, 99train6.5059e-05N100k2w0.1vm3:0 11m50.320s
23456
23457
...
23471
23472  -------------------------------
23473  D=1e3
23474  >>18ssp3.0627e-04H4.1095e-05>>100ssp3.8339e-04H7.1592e-05-06N500k2w0.1vm3:0 0m5.220s **
23475  D=5e3
23476  >>57ssp4.7740e-04H2.7569e-06>>100ssp5.0049e-04H2.5561e-06N200k2w0.1vm3:0 0m10.420s
23477  >>52ssp3.4901e-04H1.1853e-05>>100ssp4.1055e-04H9.6747e-05-06N300k2w0.1vm3:0 0m15.700s
23478  >> 7ssp6.2930e-04H9.8543e-06>> 49ssp7.2670e-04H4.4113e-05-06N400k2w0.1vm3:0 0m22.510s
23479  >> 5ssp5.8345e-04H1.0755e-05>> 63ssp1.0733e-03H8.5057e-05-06N500k2w0.1vm3:0 0m29.340s
23480  r=0.34 0.000157998 5.6797778e-05  955 1m24.790s
23481  D=5e3
23482  >>22ssp3.5327e-04H1.7626e-04>> 59ssp7.9841e-05H1.5428e-05-06N100k2w0.1vm3:0 0m16.000s
23483  >>62ssp7.7720e-05H1.7626e-04>> 59sp7.7848e-06>> 9ssp6.6219e-05H2.4382e-06-06N200k2w0.1vm3:0 0m36.850s
23484  >>63ssp4.7848e-05H3.3858e-06>> 95ssp6.6219e-05H2.4382e-06-06N300k2w0.1vm3:0 0m55.210s ******
23485  >>50ssp3.4081e-05H2.6623e-06>>100ssp5.5285e-05H7.7933e-06-06N300k2w0.1vm3:0 0m47.840s
23486  >>20ssp3.7368e-05H3.5787e-06>> 1ssp4.7483e-05H2.8450e-06-06N400k2w0.1vm3:0 1m30.010s
23487  >>59ssp5.0089e-05H1.6386e-06>>100ssp5.2996e-05H1.4758e-06-06N500k2w0.1vm3:0
23488  r=0.30 3.95415e-05 5.7753327e-05 4042 8m45.130s ***
23489  D=1e4
23490  >>78ssp7.1292e-05H3.0239e-05>> 42ssp1.3409e-04H2.6934e-06-06N100k2w0.1vm3:0 0m31.260s
23491  >>95ssp2.4903e-05H4.3523e-06>> 74ssp3.2677e-05H3.0859e-06-06N200k2w0.1vm3:0 0m11.270s
23492  >>64ssp2.1126e-05H1.9537e-06>> 5ssp2.1805e-05H5.5700e-06-06N300k2w0.1vm3:0 1m44.060s
23493  >>55ssp1.8372e-05H1.7420e-06>> 88ssp1.8881e-05H4.4344e-06-06N400k2w0.1vm3:0 2m17.860s
23494  >>51ssp1.8074e-05H1.4245e-06>> 81ssp1.8600e-05H1.2368e-06-06N500k2w0.1vm3:0 2m50.170s *******
23495  r=0.18 2.9135e-05  4.8554882e-05 5613 14mL4.440s by terasu***
23496  D=5e4
23497  >>96ssp2.8420e-05H9.5589e-06>> 89ssp3.0436e-05H8.6128e-06-06N100k2w0.1vm3:0 2m50.210s
23498  >>81ssp1.2295e-05H5.8483e-06>> 96ssp1.3444e-05H3.1551e-06-06N200k2w0.1vm3:0 5m39.210s
23499  >>96ssp7.6037e-06H2.2596e-06>> 94ssp1.0068e-05H1.8144e-06-06N300k2w0.1vm3:0 8m18.190s
23500  >>85ssp5.7613e-06H7.1525e-06>> 93ssp5.9677e-06H1.9223e-06-07N400k2w0.1vm3:0 10m49.820s
23501  >>99ssp5.1274e-06H7.6909e-06>> 92ssp5.1931e-06H7.4194e-06-07N500k2w0.1vm3:0 13m32.190s ****
23502  r=0.18 2.12596e-05 5.0942349e-05 9431 337m54.390s
23503  D=1e3
23504  >> 41ssp4.6537e-04H1.2839e-04>>1ssp1.1086e-03H1.1012e-03H1.101294e-03N100k2w0.1vm3:0 0m16.010s
23505  >> 70ssp6.0533e-04H6.7460e-05>>1ssp9.2951e-04H2.4660e-05-04N200k2w0.1vm3:0 0m31.100s
23506  >>100ssp5.6474e-04H1.9376e-05>>1ssp1.1095e-03H1.6410e-04-04N300k2w0.1vm3:0 0m46.100s
23507  >>99ssp1.4672e-05H3.5720e-04H8.3702e-06>>1ssp1.5364e-03H1.5918e-04-04N400k2w0.1vm3:0 1m1.180s
23508  >> 35ssp9.9502e-04H3.4491e-06>>1ssp1.3760e-03H1.5208e-04-04N500k2w0.1vm3:0
23509  D=5e3
23510  >>100ssp1.0583e-04H9.4090e-05>>1ssp4.1188e-04H4.7311e-04-04N100k2w0.1vm3:0 1m12.740s
23511  >>99ssp7.1262e-05H7.7515e-05>>1ssp4.5320e-04H5.0962e-04-04N200k2w0.1vm3:0 2m22.890s
23512  >>97ssp5.2127e-05H2.9218e-05>>1ssp7.5097e-04H1.3101e-06-04N300k2w0.1vm3:0 3m32.320s
23513  >> 17ssp6.0295e-05H4.6860e-06>>1ssp1.3083e-04H1.1229e-13e-04N400k2w0.1vm3:0 4m40.830s
23514  >> 17ssp4.5329e-05H3.9339e-06>>1ssp1.2419e-04H1.2296e-04-04N500k2w0.1vm3:0 5m50.150s
23515  D=1e4
23516  >> 56ssp6.4194e-05H1.0116e-04>>1ssp4.4539e-04H4.4398e-04N100k2w0.1vm3:0 2m23.510s
```

```
23517 >>10ssp6.0600e-05H7.282430e-05>>1ssp2.4471e-04H2.670268e-04N200k2w0.1vm3:0    4m40.480s
23518 >> 846ssp4.5436e-05>>1ssp1.3074e-04H1.106084e-04N300k2w0.1vm3:0    6m57.210s
23519 >> 2ssp3.6985e-05H5.05073e-05>>1ssp9.2563e-05H9.502154e-05N400k2w0.1vm3:0    9m14.670s
23520 >> 92ssp3.1103e-05H4.007001e-05>>1ssp7.8360e-05H8.998270e-05N500k2w0.1vm3:0   11m28.210s
23521 D=5e4
23522 >>96ssp3.2184e-05H6.557853e-05>>1ssp2.2126e-04H2.351238e-04N100k2w0.1vm3:0   11m50.030s
23523 >>80ssp1.9184e-05H5.5308l1e-05>>1ssp8.5110e-05H1.253944e-04N200k2w0.1vm3:0   23m3.040s
23524 >>100ssp1.8349e-05H5.162161e-05>>1ssp4.4178e-05H7.736686e-05N300k2w0.1vm3:0  34m57.630s
23526
23527 040310
23528
23529 can2
23530 1                     #0:時系列,1:関数
23531 2          次元
23532 ./data/07train1e3.dat
23533 ./data/07test.dat
23534 0 0 0 0    正規化パラメタ y0min y0max y1min y1max
23535 in         ネットの初期化
23536 100        セル数
23537 6          n_compare
23538 0.2 0 0    v_thresh vmin vmin2
23539 5          v_ratio
23540 0.1 0.05   width.gamma  #window width
23541 ex         実行
23542 1 1.05 0.90  0:オンライン(不能),1:バッチ
23543 100        i_times 学習回数
23544 100        表示回数
23545 qu
23546 data for sci2004
23547 N=100 D=1e3 100MSE5.467e-04MSEtr6.85e-05
23548 N=120 D=1e3 100MSE1.353e-03MSEtr5.92e-05
23549 N=120 D=1e3 100MSE3.817e-04MSEtr1.26e-04
23550 N=139 D=1e3 100MSE4.415e-04MSEtr4.62e-05
23551 N=140 D=1e3 100MSE2.613e-04MSEtr4.63e-05F07train1e3+tr1000+T100+K2+N140+NC6+vt0.2+vm3:0+vr5.0+w0.1+b
atch ****
23552 N=141 D=1e3 100MSE3.148e-04MSEtr4.84e-05
23553 N=150 D=1e3 100MSE3.610e-04MSEtr3.01e-05
23554 N=200 D=1e3 100MSE4.785e-04MSEtr1.30e-05
23555 N=140 D=1e3 100MSE2.941e-04MSEtr1.77e-05F07train1e3noise0+tr1000+T100+K2+N140+NC6+vt0.2+vm3:0+vr5.0+
w0.1+batch
23556
23557 N=300 D=5e3 100MSE3.529e-05MSEtr3.408le-05  F07train5e3+tr5000+T100+K2+N300+NC6+vt0.2+v
m3:0+vr5.0+w0.1+batchE0.80
23558 N=310 D=5e3 100MSE3.445e-05MSEtr3.58e-05>86ssp3.3969e-05  F07train5e3+tr5000+T100+K2+N310+NC6+vt0.2+v
m3:0+vr5.0+w0.1+batchE0.80 ***
23559
23560 N=200 D=2e3 100MSE1.946e-04MSEtr4.98e-05>22ssp1.3481e-04
23561 N=150 D=2e3 100MSE1.131e-04MSEtr7.53e-05>100ssp1.1315e-04 E0.80
23562 N=140 D=2e3 100MSE1.055e-04MSEtr5.33e-05>75ssp1.0524e-04
23563 N=130 D=2e3 100MSE9.849e-05MSEtr6.91e-05>100ssp9.8494e-05          ****
23564
23565 N=200 D=3e3 100MSE7.693e-05MSEtr4.76e-05>59ssp6.5116e-05
23566 N=190 D=3e3 100MSE6.010e-05MSEtr4.00e-05>8ssp5.6665e-05  0m21.310s***
23567 N=180 D=3e3 100MSE7.775e-05MSEtr4.43e-05>18ssp6.8473e-05  0m18.940s
23568
23569 N=200 D=4e3 100MSE4.092e-05MSEtr4.07e-05>98ssp3.9921e-05  0m26.980s
23570 N=210 D=4e3 100MSE4.213e-05MSEtr3.95e-05>52ssp3.6226e-05  0m29.890s ***E0.8
23571 N=220 D=4e3 100MSE4.960e-05MSEtr4.33e-05>98ssp4.9259e-05  0m27.250s
23572
23573 N=500 D=1e3 100MSE1.185e-03MSEtr1.40e-05> 5ssp5.8345e-04 F07train1e3+tr1000+T100+K2+N500+NC6+vt0.2+v
m3:0+vr5.0+w0.1+batch 0m39.010s
23574 N=500 D=1e3 100MSE1.845e-04MSEtr1.40e-05>21ssp1.6589e-04 F07train2e3+tr2000+T100+K2+N500+NC6+vt0.2+v
m3:0+vr5.0+w0.1+batch 0m53.320s
23575 N=500 D=1e3 100MSE1.300e-05MSEtr2.79e-05>59ssp5.0089e-05 F07train5e3+tr5000+T100+K2+N500+NC6+vt0.2+v
m3:0+vr5.0+w0.1+batch 1m39.460s
23576 N=1e4 100MSE2.090e-05MSEtr3.12e-05>51ssp1.8074e-05 F07train1e4+tr10000+T100+K2+N500+NC6+vt0.2+
vm3:0+vr5.0+w0.1+batch 2m59.760s
23578 F07train1e4+tr10000+T100+K2+N500+NC6+vt0.2+
vm3:0+vr5.0+w0.1+batch 13m39.500s
23579
23580 0nline
23581 N=500 D=1e3 100MSE1.010e-03MSEtr2.75e-06>35ssp9.9502e-04 F07train1e3+tr1000+T100+K2+N500+NC6+vt0.5+v
m3:0+w0.1+batch 0m39.010s
23582 N=500 D=2e3 100MSE3.409e-04MSEtr1.94e-05>13ssp3.1373e-04 F07train2e3+tr2000+T100+K2+N500+NC6+vt0.5+v
m3:0+w0.1+online 1m25.240s
23583 N=500 D=5e3 100MSE4.947e-05MSEtr3.40e-05>17ssp4.5329e-05 F07train5e3+tr5000+T100+K2+N500+NC6+vt0.5+v
m3:0+w0.1+online 2m33.280s
23584 N=1e4 100MSE3.110e-05MSEtr4.00e-05>92ssp3.1103e-05 F07train1e4+tr10000+T100+K2+N500+NC6+vt0.5+
vm3:0+w0.1+online11m36.500s
```

```
23585 N=500 D=5e4 100MSE1.635e-05MSEtr4.30e-05>56ssp1.2118e-05 F07train5e4+tr50000+T100+K2+N500+NC6+vt0.5+
vm3:0+vr5.0+w0.1+online 57m2.070s
23586
23587  batch noise0
23588 N=500 D=5e4 100MSE6.110e-06MSEtr5.37e-06>45ssp4.1359e-06 F07train5e4noise0+tr50000+T100+K2+N500+NC6+
vt0.2+vm3:0+vr5.0+w0.1+batch 11m31.560s
23589 N=500 D=1e4 100MSE7.185e-06MSEtr3.25e-06>88ssp5.6664e-06 F07train1e4noise0+tr10000+T100+K2+N500+NC6+
vt0.2+vm3:0+vr5.0+w0.1+batch 2m25.110s
23590 N=500 D=5e3 100MSE2.546e-05MSEtr2.50e-06>53ssp2.2217e-05 F07train5e3noise0+tr5000+T100+K2+N500+NC6+v
t0.2+vm3:0+vr5.0+w0.1+batch  1m25.580s
23591 N=500 D=2e3 100MSE1.259e-04MSEtr9.35e-07>39ssp1.2146e-04 F07train2e3noise0+tr2000+T100+K2+N500+NC6+v
t0.2+vm3:0+vr5.0+w0.1+batch/ 0m49.170s
23592
23593 N=500 D=1e3 100MSE4.348e-04MSEtr1.05e-05>19ssp3.7114e-04 F07train1e3noise0+tr1000+T100+K2+N500+NC6+v
t0.2+vm3:0+vr5.0+w0.1+batch 0m38.140s
23594 N=500 D=1e3 100MSE6.482e-04MSEtr9.12e-06>100ssp6.4818e-04 F07train1e3noise0+tr1000+T100+NC6+vt0.2+v
t0.2+vm2:0+vr5.0+w0.1+batch 0m36.640s
23595 N=500 D=1e3 100MSE9.466e-04MSEtr5.73e-09>18ssp8.5702e-04 F07train1e3noise0+tr1000+T100+K2+N500+NC6+v
t0.2+vm1:0+vr5.0+w0.1+batch 0m32.080s
23596 N=500 D=1e3 100MSE3.651e-04MSEtr3.01e-05>14ssp2.8057e-04 F07train1e3noise0+tr1000+T100+K2+N500+NC6+v
t0.2+vm4:0+vr5.0+w0.1+batch 0m39.210s
23597 040308
23598 can2                    #0:timeseries,1:chaos prepare_data() in my_function.c
23599 0                       #channels
23600 10 0
23601 ./data2s.dat
23602 980 1020                #Ttrain,Ttotal: points in time of training and total data
23603 -410 640 0 1            #y0min y0max y1min y1max for normalization
23604 0                       #r1 r2
23605 in                      #
23606 25                      #n_cells storing vectors
23607 6                       #n_compare
23608 0.2 3                   #v_ratio
23609 2                       #v_thresh vmin vmin2
23610 0.2                     #width  window width
23611 sr                      #show training data show_data_parms(train);
23612 n                       #no
23613 sn                      #show network params
23614 sb                      #show batch params
23615 ex                      #
23616 1 1e-3  0.90  #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23617 100                     #iterations to execute
23618 nl                      #display
23619 bestmsp.net
23620 msp
23621
23622
23623 040225
23624 (1) 黒木です。INCNN04 の問題で多段予測を指定した時点からの区間だけでなく、
23625 20(sim.c の #define NT 20 で設定)時点後まで1階のリカーシブにして行い、
23626 その MSE の平均を givendata->1jcnn04data->MSEmean にしまうようにしました。
23627 プログラムは
23628 http://terasu.cntl.kyutech.ac.jp/~kuro/sotu/2004/ueno/can2b040225.tgz
23629 です。
23630 例えば、ruby ./gtest.rb 930 0 0 をすると他のブロックの与えられたデータ
23631 と、この区間でのデータを学習し、その学習結果を使って、
23632 多段予測区間として
23633 930 949
23634 931 950
23635 ...
23636 949 968
23637 の 20個の各区間をそれぞれその前の時点の情報から多段予測し、それぞれの
23638 MSE を求め平均したものが MSEmean です。
23639 これは、以前のようにこの一区間のみでパラメタを最適化しても、そのとなりの区間
23640 その MSE の平均が観測できるのが今です。 Oblock の最適化を行った
23641 結果、FBIsはかなり大きな値 548 になったようにうまくいくようである。
23642
23643 沢さん：他のブロックでも最適パラメタを求めてくれませんか(このブロックも
23644 チェックして!)?
23645 上野君：今、test~MSE に仮に入れて、abisort.rbで MSEmspをソートしているけど、
23646 MSEmeanでソートできるようにしてくれませんか?
23647
23648 以下、Oblock を最適化したパラメタである。
23649 なお、GTEST_GNFLAGS=["-1"]は まずい性質が分かった (いつか説明する) ので使わない。
23650 ##############################best params for block0 below
23651 GTEST_GNFLAGS      = ["0"] #GTEST_GNFLAGS       = ["-1"]
23652 #GTEST_DLASTS      = ["-60"]
23653 GTEST_BLOCKS       = ["0"]
23654 GTEST_NCOMPARES    = ["6"]
23655 GTEST_VTHRESHS     = ["0.2"]
23656 GTEST_VMINS        = ["3"]
23657 GTEST_VMIN2S       = ["0"]
```

```
23658 GTEST_VRATIOS    = ["2"]
23659 GTEST_WIDTHS     = ["0.2"]
23660 GTEST_GAMMA0S    = ["0.001"]
23661 GTEST_NCHANNELS  = ["17"] #GTEST_NCHANNELS = ["14","15","16","17","18","19","20","21","22","23"]#GTES
T_NCHANNELS = ["19"]#GTEST_NCHANNELS = ["19"]
23662 GTEST_NCELLS     = ["22"]#GTEST_NCELLS = ["14"]#
ST_NCELLS = ["22"]#GTEST_NCELLS = ["14"]#
23663 #GTEST_DLASTS = ["-10"]#GTEST_DLASTS = ["-100","-90","-80","-70","-60","-50","-40","-30","-20",
"-10","0"]#GTEST_DLASTS = ["-60"]#
23664 GTEST_DLASTS =["-7"] #GTEST_DLASTS=["-5","-6","-7","-8","-9","-11","-12","-13","-14",]
23665 GTEST_FB2S    = ["55"]#GTEST_FB2S = ["50","51","52","53","54","55","56","57","58","59","60"]#
GTEST_FB2S    = ["56"] #
23666 GTEST_ITERTIMES = ["15"] #GTEST_ITERTIMES = ["50"] #
23667 #GTEST_FB1S=["550"]#GTEST_FB1S=["450","460","470","480","490","500","510","520","530","540","550"]#G
TEST_FB1S=["560","570","580","590","600","610","620","630","640","650"]
23668 GTEST_FB1S=["548"] #GTEST_FB1S=["545","546","547","548","549","551","552","553","554","555"]
23669 #############################best params for block0 above
23670
23671
23672
23673 040214
23674 (1) can2 のコマンドに mspj (IJCNN04の予測結果出力)を追加。
23675 (2) IJCNN04モードのときはデータテンプファイルではなく
23676     data.txt, data.dat, smooth.dat, smooth_.dat があること
23677     があるパスを指定すること。
23678 (3) dt[] (my_function.c)の計算間違いを修正。MSEdlはゼロになることがある
23679     その sim.c を修正。
23680 040213
23681 exec_msp_test_IJCNN04_out() で predict.dat 出力するようにした。
23682 (2)上野君より
23683 > 黒木先生
23684 > 先生に言われたメモリリークを起こすバグですが、発見しましたので
23685 > バグフィックスして更新しました。ダウンロードいら試してみて下さい.
23686 > いつものように更新前のファイルは*.origといら拡張子をつっています。
23687 > $ wget -v http://terasu.cntl.kyutech.ac.jp/~ueno/study/can2b04021lueno.tgz
23688 > $ wget -v http://terasu.cntl.kyutech.ac.jp/~ueno/study/ijcnn04021lueno.tgz
23689 →これをもとに修正。
23690 040212
23691 (1) IJCNN04モードのとき連続した10組の多段予測テストを行うようにした。
23692 (2) IJCNN04モードでの入力を from のみにした (下の t_t2は誤まず、
t_t2=t_t1+19とした)
23693 例 :
23694
23695 3            #k1,k2  n_channels= k1+ k2
23696 45  0                     #<test_block(0,1,2,3,4)>, t_t1,t_t2
23697 ./smooth_.dat             #0:time series,1:funciton approximation,<3:ijcnn04>
23698 0  960 980               #y0min y0max y1min y1max for normalization
23699 -410 640 0 1             #x0min x0max x1min x1max for normalization
23700 -410 640 0 1             #  r1 r2
23701 0  0                     #  r1 r2
23702 in           #n_cells storing vectors
23703 30                       #n_compare
23704 6            #n_compare
23705 0.2  3  0    #v_thresh vmin vmin2
23706 2                       #v_ratio
23707 0.5                     #width
23708 ex           #execute
23709 1 1e-3 0.90 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23710 100          #iterations to execute
23711 100          #display
23712
23713 040210
23714 (1) simdata_ability_display()を呼ぶたびにいかなりの量のメモリが順次減っ
23715 て行く。
sim.cの次の行を生かしてチェック。
23716     {int *pip=(int *)malloc((sizeof(int)));printf("p0=%p\n",p);free(p);}//malloctest0
23717 上野君、解決を!(sim.dの1211行)
23719
23720 (2) IJCNN04では、従来の逐次的逆行計算より、擬似逆行列を直接計算する
23721     GSLの方が良いことがある。以下の3手法を導入
23722     make clean; make "GSL=1"    #jacobi法 遅いが精度がよいはず
23723     make clean; make "GSL=2"    #従来法 中程度
23724     make clean; make "GSL=3"    #mod法    速い、戻ってこないことがある
23725 でコンパイル。
23726     GSLで計算された連想行列の要素は非常に大きくなることがあるので、
23727     if(net->cell[i].S>1e5) net->cell[i].S=1e5}//??for infinite err of GSL //040211
23728     を入れた。
23729
23730
23731 040208e
23732 (1) ARMA モデルを導入(まだ IJCNN04にのみ有効)。
23733 3            #0:time series,1:funciton approximation,<3:ijcnn04>
23734 3
```

```
23735 350 1        #k1,k2  n_channels= k1+ k2
23736 ./data.dat               #0:time series,1:funciton approximation,<3:ijcnn04>
23737 2 961 980                #<test_block(0,1,2,3,4)>, t_t1,t_t2
23738 -410 640 0 1             #y0min y0max y1min y1max for normalization
23739 -410 640 0 1             #x0min x0max x1min x1max for normalization
23740 0 0                      #  r1 r2
23741 in           #  r1 r2
23742 100          #n_cells storing vectors
23743 6                        #n_compare
23744 0.2  5  0    #v_thresh vmin vmin2
23745 2                        #v_ratio
23746 0.2                      #width
23747 ex           #execute
23748 1 0.05  0.90 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23749 10           #iterations to execute
23750 10           #display
23751
23752 Goodd Params for  Block#3
23753 3            #k1,k2  n_channels= k1+ k2
23754 350 1
23755 2 961 980                #<test_block(0,1,2,3,4)>, t_t1,t_t2
23756 -410 640 0 1             #y0min y0max y1min y1max for normalization
23757 -410 640 0 1             #x0min x0max x1min x1max for normalization
23758 0 0                      #  r1 r2
23759 in           #  r1 r2
23760 100          #n_cells storing vectors
23761 6                        #n_compare
23762 0.2  5  0    #v_thresh vmin vmin2
23763 2                        #v_ratio
23764 0.2                      #width
23765 ex           #execute
23766 1 0.05  0.90 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23767 10           #iterations to execute
23768 10           #display
23769
23770 >>10ssp2.6358e+03(1.159992e+00)10msp3.3599e+03(1.4787e+00)10train3.6408e-11(3.6408e-11)N100k351w0.2v
m5:0
23771
23772 Goodd Params for  Block#2
23773 3            #k1,k2  n_channels= k1+ k2
23774 350 1
23775 ./data.dat               #0:time series,1:funciton approximation,<3:ijcnn04>
23776 2 961 980                #<test_block(0,1,2,3,4)>, t_t1,t_t2
23777 -410 640 0 1             #y0min y0max y1min y1max for normalization
23778 -410 640 0 1             #x0min x0max x1min x1max for normalization
23779 0 0                      #  r1 r2
23780 in           #  r1 r2
23781 100          #n_cells storing vectors
23782 6                        #n_compare
23783 0.2  5  0    #v_thresh vmin vmin2
23784 2                        #v_ratio
23785 0.2                      #width
23786 ex           #execute
23787 1 0.05  0.90 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23788 10           #iterations to execute
23789 10           #display
23790 >>5ssp5.9145e+02(2.564346e+00)1msp4.5657e+02(1.9795e+00)10train3.911e-11(3.991le-11)N100k351Goodd./
can2
23791
23792 Params for Block#1
23793 Goodd Params for Block#1
23794 ./can2
23795 3            #0:time series,1:funciton approximation,<3:ijcnn04>
23796 350 0        #k1,k2  n_channels= k1+ k2
23797 ./data.dat               #<test_block(0,1,2,3,4)>, t_t1,t_t2
23798 1 961 980                #y0min y0max y1min y1max for normalization
23799 -410 640 0 1             #x0min x0max x1min x1max for normalization
23800 -410 640 0 1             #  r1 r2
23801 0 0                      #  r1 r2
23802 in           #n_cells storing vectors
23803 100          #n_compare
23804 6                        #n_compare
23805 0.2  5  0    #v_thresh vmin vmin2
23806 2                        #v_ratio
23807 0.2                      #width
23808 ex           #execute
23809 1 0.05  0.90 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23810 10           #iterations to execute
23811 10           #display
23812 MSE=        4ssp2.99e+02(1.24e+00)msp3.13e+02(1.30e+00)MSEtr2.22e-10N100k350+0w0.2vm5:0
23813 Goodd Params for  Block#0
23814 3
```

```
23815  ./can2
23816  3               #0:time series,1:funciton approximation,<3:i:jcnn04>
23817  350 1           #k1.k2  n_channels= k1+ k2
23818  ./data/data.dat
23819  0 961 980       #test_block(0,1,2,3,4)>, t_t1,t_t2
23820  -410 640 0 1    #y0min y0max y1min y1max for normalization
23821  -410 640 0 1    #x0min x0max x1min x1max for normalization
23822  0 0             # r1 r2
23823  in              #
23824  100             #n_cells storing vectors
23825  6               #n_compare
23826  0. 2 5 0        #v_thresh vmin vmin2
23827  2               #v_ratio
23828  0.2             #width
23829  ex              #execute
23830  1 0.05 0.95 #<0:online,1:batch>, <gamma0>, <entropy_thresh>
23831  10              #iterations to execute
23832  10              #display
23833  MSE> 1ssp2.17e+02(5.36e-01)msp5.09e+01(1.26e-01)MSEtr2.87e-09N100k350+1w0.2vm5:0
23834
23835  (1)
23836  040207
23837  (1) IJCNN04 用
23838  ./can2
23839  simdata_func_ssp_set   <<-変更//kuro040207
23840  simdata_error_ssp_set  <<-変更//kuro040207
23841  ./can2
23842  3               #0:time series,1:funciton approximation,3:i:jcnn04
23843  300             #channels
23844  ./data/data.dat
23845  0 961 1000      #<test_block(0,1,2,3,4)>, <t_t1>,<t_t2>
23846  0 0 0 0         #
23847  in              #
23848  90              #n_cells storing vectors
23849  6               #n_compare
23850  0. 2 5 0        #v_thresh vmin vmin2
23851  2               #v_ratio
23852  0.2             #width
23853  ex              #execute
23854  1 0.05 0.95 #<0:online,1:batch>, <gamma0>, entropy_thresh
23855  10              #iterations to execute
23856  10              #display
23857  MSE> 1ssp1.12e+02(2.75e-01)msp1.13e+02(2.78e-01)MSEtr4.58e-15N90k300w0.2vm5:0
23858  MSE> 10ssp7.07e+01(1.75e-01)msp7.47e+01(1.84e-01)MSEtr1.24e-17N90k30w0.2vm5:0→best_b0.net
23859  MSE> 3ssp1.58e+02(6.59e-01)msp1.64e+02(6.81e-01)MSEtr3.69e-16N90k350w0.2vm5:0→best_b1.net
23860  MSE> 2ssp1.84e+02(7.65e-01)msp1.90e+02(7.92e-01)MSEtr1.03e-10N90k330w0.2vm5:0
23861  ./can2
23862  300             #channels
23863  3               #0:time series,1:funciton approximation,3:i:jcnn04
23864  ./data/data.dat
23865  0               #test_block 0,1,2,3,4
23866  -410 640 0 1    #y0min y0max y1min y1max for normalization
23867  -410 640 0 1    #x0min x0max x1min x1max for normalization
23868  0 0             # r1 r2
23869  in              #
23870  90              #n_cells storing vectors
23871  6               #n_compare
23872  0. 2 5 0        #v_thresh vmin
23873  0.2 0.05        #width, gamma0
23874  ex              #execute
23875  1 0.05 0.95 #<0:online,1:batch>, <gamma0>, entropy_thresh
23876  50              #iterations to execute
23877  50              #display
23878  ./data/data.dat  #test_block 0,1,2,3,4
23879  MSE>12ssp7.87e+01(1.94e-01)msp7.68e+01(1.89e-01)MSEtr4.35e-11N90k300w0.2vm5:0
23880  MSE>7ssp7.87e+01(1.94e-01)msp7.69e+01(1.90e-01)MSEtr1.12e-10N100k300w0.2vm5:0
23881  MSE>4ssp7.38e+01(1.82e-01)msp7.68e+01(1.89e-01)MSEtr4.45e-10N80k300w0.2vm5:0
23882  MSE>5ssp9.04e+01(2.23e-01)msp1.12e+02(2.76e-01)MSEtr2.81e-10N80k300w0.2vm5:0
23883  MSE>9ssp7.87e+01(1.94e-01)msp7.69e+01(1.90e-01)MSEtr3.25e-11N100k300w0.2vm5:0    N
23884  MSE>6ssp1.60e+02(3.94e-01)msp1.60e+02(3.95e-01)MSEtr8.05e-11N300k300w0.2vm5:0
23885  MSE>3ssp1.60e+02(3.94e-01)msp1.60e+02(3.95e-01)MSEtr9.79e-10N400k300w0.2vm5:0
23886  ./can2
23887  3               #0:time series,1:funciton approximation,3:i:jcnn04
23888  300             #channels
23889  ./data/data.dat  #test_block 0,1,2,3,4
23890  0               #
23891  -410 640 0 1    #y0min y0max y1min y1max for normalization
23892  -410 640 0 1    #x0min x0max x1min x1max for normalization
23893  0 0             # r1 r2
23894
```

```
23897  in              #
23898  500             #n_cells storing vectors
23899  4               #n_compare
23900  0. 2 4 0        #v_thresh vmin
23901  5               #v_ratio
23902  0.2 0.05        #width, gamma0
23903  ex              #execute
23904  1 0.01 0.5  #<0:online,1:batch>, <gamma0>, entropy_thresh
23905  50              #iterations to execute
23906  50              #display
23907  ssp0            #check the training ability
23908  MSE> 20ssp1.63e+02(4.03e-01)msp1.73e+02(4.26e-01)MSEtr5.23e-12N500k300w0.2vm4:0
23909  040206
23910  (1)
23911  ex の と き gamma0,entropy_threshを読み込むようにした。次のようにする
23912  ---
23913  ex              #execute
23914  1 0.05 0.4  #<0:online,1:batch>, <gamma0>, entropy_thresh
23915  50              #iterations to execute
23916  50              #frequency of display
23917  ---
23918  (1)
23919  (1)
23920  simdata.c
23921  simdata.h
23922  wrapplot/plot.c
23923
23924  040204
23925  (1) gamma0を読み込むようにした。
23926  --from here 040203vt0.2_.log
23927  net->gamma0        =0.05;
23928  vt=0.2    //see bench2b.sh
23929  Entrol[c_times]=(1.-net->nentropy)*(MSEtrain[c_times]-net->sigma2_hat);
23930  03train5e4 100MSE1.885e-06NMSE01.91e-04MSEtr3.14e-05>>10ssp1.3742e-15sp1.4036e-06H6
23931  .15311e8e-07N500k2w0.1vm3:0 14m4. 400s
23932  6.253926e-07N500k2w0.1vm3:0 14m18.990s
23933  07train5e4 100MSE4.130e-06NMSE03.38e-06MSEtr3.43e-05>>92ssp4.0859e-06H6.837418e-07>>79ssp4.3245e-06H
23934  6.414648e-07N500k2w0.1vm3:0 13m3.290s
23935  1.855987e-03N500k2w0.1vm3:0
23936  02train5e4 100MSE1.602e-02NMSE06.43e-02NMSEtr3.83e-03>>75ssp1.3710e-02H2.099179e-03>>60ssp1.7213e-02H
23937  03train5e4 100MSE2.437e-06NMSE02.47e-04MSEtr3.49e-05>>95ssp2.4156e-06H1.930361e-06>>84ssp2.5536e-06H
23938  1.749298e-06N100k2w0.1vm3:0
23939  11train5e4 100MSE3.391e-05NMSE04.14e-04MSEtr6.37e-05>>96ssp3.3782e-06H6.170366e-06>>83ssp3.5414e-05H
23940  5.967447e-06N100k2w0.1vm3:0
23941  07train5e4 100MSE2.784e-05NMSE02.28e-04MSEtr6.15e-05>>96ssp2.5735e-05H8.469813e-06>>93ssp2.6727e-05H
23942  8.341542e-06N100k2w0.1vm3:0
23943  02train5e4 100MSE1.603e-02NMSE06.43e-02NMSEtr8.23e-03>>72ssp1.2218e-02H5.719671e-03>>7ssp1.7421e-02H4
23944  .741870e-03N100k2w0.1vm3:0
23945  --to here 040203vt0.2_.log
23946  040203
23947  (1) store_vector_batch を以下のように変更し、my_plinn.cと sim.cを変更た。
23948  calc_Voronoi(net.x_train,y_train,n_train);
23949  modify_M_batch(net, x_train, y_train);
23950  net->ret1=calc_alpha(net, x_train, y_train,n_train);
23951  ret2=reinit_cell_batch(net, x_train, y_train,n_train) ;
23952  modify_w_batch(net, x_train, y_train, n_train);
23953  まで を フェーズ1とし、MSEの計算はフェーズ1が終わった後行う。
23954  (2) Entroの う ら net->sigma2_hat を引いたバージョンを付加。
23955
23956  040202
23957  (1)時刻GlobalTimeにおいて net->nentropyと net->Sは荷重変更前 の も の、
23958  MSEは荷重変更後のものである。
23959  訓練誤差 MSEtrain[c_times]と予測誤差 MSEssp[c_times]を同じ荷重に対す
23960  るように するため sim.c で変更した。
23961  MSEtrain[c_times-1] = net->S[GlobalTime]/givendata->n_train;//Sは学習前のもの
23962  Entrolc_times-1] =(1.-net->nentropy)*MSEtrainlc_times-l]//nentropyは学習前のもの
23963  とした。
23964  ここでEntrolは 訓練誤差 MSEtrain[t]が小さく、かつエントロピーが大
23965  きい時刻を求める→減化誤差が小さい時刻を見つけることができた?
23966  →以下の結果のうち一番右の>>の後ろがMSEとその のときのH (= min Entrol[t])
23967  --from here 040202vt0.2.log
23968  net->gamma0 =LA(net->n_cells,0.24,100,0.11,500); //see my_plinn.c
```

```
24084  f03        7.153e-06
24085  f11
24086  f07
24087  f02
24088
24089
24090  03train5e4 50MSE012 2.392e-06 3.70e-06 3.35e-06NMSE02.42e-04MSEtr3.47e-05N100k2w0.lvm3:0 100MSE012 1
       .934e-06
24091  11train5e4 50MSE012 3.191e-05 2.59e-05 3.00e-05NMSE03.90e-04MSEtr6.35e-05N100k2w0.lvm3:0 100MSE012 3
       .015e-05
24092
24093  03train5e4 50MSE012 1.944e-06 1.96e-06 2.46e-06NMSE01.97e-04MSEtr3.44e-05N100k2w0.lvm3:0
24094  11train5e4 50MSE012 3.356e-05 3.36e-05 3.22e-05NMSE04.10e-04MSEtr6.22e-05N100k2w0.lvm3:0100MSE012 3.
       059e-05
24095  07train5e4 50MSE012 3.029e-05 1.70e-04 3.00e-06NMSE02.48e-04MSEtr6.53e-05N100k2w0.lvm3:0100MSE012 2.
       547e-05
24096  02train5e4 50MSE012 2.294e-02 4.17e-02 4.47e-02NMSE09.21e-02MSEtr1.22e-02N100k2w0.lvm3:0100MSE012 2.
       505e-02
24097
24098
24099  reinit 1.9*, alpha=0.10 のとき
24100
24101  03train5e4 50MSE012 1.543e-06 1.36e-06 1.81e-06NMSE01.56e-04MSEtr3.19e-05N500k2w0.lvm3:0>35ssp1.3908
       38ssp1.3481e-06
24102  11train5e4 50MSE012 3.329e-06 2.41e-06 3.15e-06NMSE04.06e-05MSEtr3.31e-05N500k2w0.lvm3:0>49ssp3.1653
       49ssp3.2338e-06
24103  02train5e4 50MSE012 1.451e-02 3.66e-02 3.85e-02NMSE05.82e-02MSEtr2.79e-03N500k2w0.lvm3:0>20ssp1.3121
       49ssp6.6985e-06
24104
       42ssp1.3243e-02
24105  reinit 1.9*, alpha=0.10 のとき
24106  03train5e4 50MSE012 1.859e-06 1.86e-06 2.72e-06NMSE01.88e-04MSEtr3.46e-05N100k2w0.lvm3:0>50ssp1.8587
       e-06
24107  11train5e4
24108  07train5e4
24109  02train5e4
24110
24111  03train5e4 alpha=0.20 50MSE012 1.419e-06 1.32e-06 1.84e-06NMSE01.44e-04MSEtr3.24e-05N500k2w0.lvm3:0>
24112  11train5e4 alpha=0.20 50MSE012 3.586e-06 2.69e-06 3.43e-06NMSE04.38e-05MSEtr3.33e-05N500k2w0.lvm3:0>
24113  07train5e4 alpha=0.20 50MSE012 1.102e-05 6.56e-05 3.57e-06NMSE09.01e-06MSEtr3.67e-05N500k2w0.lvm3:0>
24114  02train5e4 alpha=0.20 50MSE012 1.654e-02 3.96e-02 4.84e-02NMSE06.64e-02MSEtr2.72e-03N500k2w0.lvm3:0>
24115
24116  reinit 1.9*, alpha=0.10 のとき
24117  03train5e4 alpha=0.10 50MSE012 1.543e-06 1.36e-06 1.81e-06NMSE01.56e-04MSEtr3.19e-05N500k2w0.lvm3:0>
       24ssp3.2687e-06
24118  11train5e4 alpha=0.05 50MSE012 1.749e-06 1.53e-06 2.12e-06NMSE01.77e-04MSEtr3.16e-05N500k2w0.lvm3:0>
       12ssp1.3338e-06
24119  02train5e4 alpha=0.01 50MSE012 1.782e-06 1.86e-06 2.11e-06NMSE01.80e-04MSEtr3.18e-05N500k2w0.lvm3:0>
       1ssp1.5762e-06
24120  →
24121  reinit 1.5* のとき
24122  03train5e4 50MSE012 1.749e-06 1.53e-06 2.12e-06NMSE01.77e-04MSEtr3.16e-05N500k2w0.lvm3:0
24123  11train5e4 50MSE012 3.376e-06 2.56e-06 4.15e-06NMSE04.12e-05MSEtr3.30e-05N500k2w0.lvm3:0
24124  07train5e4 50MSE012 8.234e-06 3.33e-05 2.47e-06NMSE06.73e-06MSEtr3.69e-05N500k2w0.lvm3:0
24125  02train5e4 50MSE012 1.642e-02 5.41e-02 4.32e-02NMSE06.59e-02MSEtr2.37e-03N500k2w0.lvm3:0
24126
24127  03train5e4 100MSE012 1.962e-06 1.70e-06 2.27e-06NMSE01.98e-04MSEtr3.16e-05N100k2w0.lvm3:0
24128  11train5e4 100MSE012 3.374e-06 2.80e-06 3.76e-06NMSE04.12e-05MSEtr3.26e-05N100k2w0.lvm3:0
24129  07train5e4 100MSE012 5.308e-06 2.15e-05 1.75e-06NMSE04.34e-06MSEtr3.49e-05N100k2w0.lvm3:0
24130  02train5e4 100MSE012 1.797e-02 5.82e-02 6.10e-02NMSE07.21e-02MSEtr1.78e-03N100k2w0.lvm3:0
24131
24132  03train5e4 50MSE012 2.212e-06 2.85e-06 3.10e-06NMSE02.24e-04MSEtr3.45e-05N100k2w0.lvm3:0
24133  03train5e4 100MSE012 2.185e-06 2.91e-06 2.09e-06NMSE02.21e-04MSEtr3.47e-05N100k2w0.lvm3:0
24134  11train5e4 100MSE012 2.731e-06 1.91e-05 2.30e-06NMSE03.33e-04MSEtr5.76e-05N100k2w0.lvm3:0
24135  07train5e4 100MSE012 9.139e-05 5.39e-04 2.28e-05NMSE07.47e-04MSEtr1.38e-04N100k2w0.lvm3:0
24136  02train5e4 100MSE012 1.814e-02 3.42e-02 4.82e-02NMSE07.28e-02MSEtr1.11e-02N100k2w0.lvm3:0
24137
24138  07train online 3.38e-5
24139  alpha=0.15 net->n_cells*0.10
24140  →100MSE012 2.892e-05 9.69e-05 3.49e-06NMSE02.37e-04MSEtr6.92e-05N100k2w0.lvm3:0
24141  alpha=0.10 100MSE012 4.298e-05 2.30e-04 3.60e-05NMSE03.51e-04MSEtr7.29e-05N100k2w0.lvm3:0
24142  alpha=0.15 *0.06 100MSE012 5.570e-05 2.65e-04 2.09e-05NMSE04.56e-04MSEtr1.34e-04N100k2w0.lvm3:0
24143  0.05nentropy→100MSE012 3.415e-05 2.15e-04 5.18e-06NMSE02.79e-04MSEtr6.60e-05N100k2w0.lvm3:0
24144
24145
24146
24147
24148
24149  07train batch →100MSE012
```

```
24150  02train batch0.06→100MSE012 1.822e-02 5.46e-02 4.27e-02NMSE07.31e-02MSEtr2.60e-03N500k2w0.lvm3:0
24151  02train ??      →100MSE012 1.723e-02 6.38e-02 3.60e-02NMSE06.92e-02MSEtr1.80e-03N500k2w0.lvm3:0
24152
24153  040128 r=0.20 C=1000 e=0.001
24154               MSE test      MSE train      M      time
24155  07train5e4 2.40751e-05 5.49086214e-05 9218 410m28.628s***Noconvergence
24156
24157  040127
24158  (1) ユニット数により 再初期化の基準を変える nentropy_thresh を導入した。
24159  040126
24160  (1)sim.cの表示ルーチンを簡素化した。
24161  //online check
24162  can2
24163  1
24164  10        #channels
24165            #0:timeseries,1:chaos prepare_data() in my_function.c
24166  ./data/train10+10+20.dat    #training file
24167  ./data/test10+10+20.dat     #prediction file
24168  -410 640 0 1   #y0min y0max y1min y1max for normalization
24169  -410 640 0 1   #x0min x0max x1min x1max for normalization
24170  0 0            # r1 r2
24171  in             #
24172  200            #n_cells storing vectors
24173  20             #n_compare
24174  0.3 4 -1       #v_thresh vmin
24175                 #v_ratio
24176  0.8 0.01       #width, gamma0
24177  sr             #show training data show_data_parms(train);
24178  no             #no
24179  sn             #show network params
24180  sb             #show batch params
24181  ex             #execute
24182  1              #0:online, 1:batch
24183  50             #iterations to execute
24184  50             #display
24185
24186  can2                       #0:timeseries,1:chaos
24187  1
24188  2 0                        #channels
24189  ./data/07train5e4.dat       #training file
24190  ./data/07test.dat          #prediction file
24191  0 0 0 0        #y0min y0max y1min y1max for normalization
24192  in             #init_net
24193  500            #n_cells #storing vectors
24194  6              #n_compare
24195  6 3 0          #v_thresh vmin vmin2
24196  5              #v_ratio
24197  0.1            #width      #window width
24198  ex             #execute learning, test and prediction
24199  5              #0:online,1:batch
24200  100            #i_times #iterations to execute
24201  500000         #d_times #display
24202  07train5e4 500000MSE012 2.265e-05 1.33e-04 1.87e-05NMSE01.85e-05N500k2w0.lvm3:0
24203  02train5e4 500000MSE012 1.641e-02 4.70e-02 3.92e-02NMSE06.59e-02MSEtr7.80e-03N500k2w0.lvm3:0
24204
24205
24206
24207
24208  040123
24209  (1) sigma2hatの計算が間違っていたので訂正した。
24210  (2) 正規化エントロピーnentropyの計算をして、再初期化のための閾値とした。
24211      nentropy=0.95が良いようだ
24212      →まず再初期化で微調整するという具合になる。
24213  040122
24214  (1)3つの分布のMSEの計算を入れた。
24215  (1)3つの分布のMSE(MSEtrまたはMSEtrain)を表示するようにした。
24216  07train5e4 では未知のテストデータに対するMSEがMSEtrainより小さくなるが、
24217  これは
24218  ・CAN2は雑音を除いた入出力関数fを学習して形成するものであること、
24219  ・MSEtrain&は雑音を含む訓練データに対するMSEであること、
24220  ・テストデータは雑音を含まないこと
24221  から理解できる。例えばCAN2が完全に学習できたとすると
24222  テストデータに対するMSEは0、訓練データに対する MSEは実際の誤差の分だけ
24223  あるという具合である。
24224  なお、雑音は-0.01〜-0.0-1のの一様乱数でその MSEは3.334155e-05
24225  である。
24226  can2                        #0:timeseries,1:chaos
24227  1
24228  2 0                        #channels
24229  ./data/07train5e4.dat       #training file
24230  ./data/07test.dat          #prediction file
24231  0 0 0 0        #y0min y0max y1min y1max for normalization
        in            #init_net
```

```
24232 500                    #n_cells #storing vectors
24233 6                      #n_compare
24234 0.5 3 0                #v_thresh vmin vmin2
24235 0.1                    #v_ratio
24236 ex                     #width  #window width
24237 1                      #execute learning, test and prediction
24238            #0:online,1:batch
24239 50                     #i_times # iterations to execute
24240 50                     #d_times #display
24241
24242 02train5e4  50MSE012 1.46e-02 3.49e-02 3.36e-02NMSE05.86e-02MSEtr2.50e-03N500k2w0.1vm3:0
24243 02train5e4 100MSE012 1.64e-02 4.35e-02 2.88e-02NMSE06.60e-02MSEtr2.01e-03N500k2w0.1vm3:0
24244
24245 07train5e4 100MSE012 6.25e-05 2.82e-05 1.19e-06NMSE05.11e-05MSEtr3.47e-05N500k2w0.1vm3:0
24246 07train5e4  50MSE012 6.79e-06 2.99e-05 1.68e-06NMSE05.55e-05MSEtr3.63e-05N500k2w0.1vm3:0
24247
24248 03train5e4  50MSE012 1.73e-06 1.42e-06 2.01e-06NMSE01.75e-04MSEtr3.16e-05N500k2w0.1vm3:0
24249 11train5e4  50MSE012 3.62e-06 2.98e-06 3.83e-06NMSE04.42e-05MSEtr3.29e-05N500k2w0.1vm3:0
24250 07train5e4  50MSE012 5.65e-06 2.48e-06 1.53e-06NMSE04.62e-05MSEtr5.41e-03N500k2w0.1vm3:0
24251 02train5e4  50MSE012 1.53e-02 3.95e-02 3.32e-02NMSE06.12e-02MSEtr2.41e-03N500k2w0.1vm3:0
24252 03train5e4  50MSE012 1.49e-02 5.08e-02 3.00e-02NMSE05.97e-02MSEtr5.64e-03N500k2w0.8vm3:0
24253
24254 07train5e4 100MSE012 4.52e-06 2.00e-05 1.32e-06 NMSE03.70e-05MSEtr3.43e-05N500k2w0.1vm3:0
24255 11train5e4 100MSE012 3.82e-06 2.06e-06 4.17e-06NMSE04.66e-05MSEtr3.27e-05N500k2w0.1vm3:0
24256 雑音のMSE=3.334155e-05
24257 データ数    can2online SVR      can2onlin   can2batch
24258 学習回数    5e4    5e4    maxle6   5e7         50(*5e4)
24259                    w=0.1
24260
24261 f03       1.830e-06 6.19287e-06 0.00000041 1.7736e-06
24262 f11       3.865e-06 1.113e-05  0.00000188 3.7047e-06
24263 f07       3.134e-05 1.92884e-05 0.00000529 8.0602e-06
24264 f02       1.665e-02 0.0149962  0.01811174 1.4668e-02
24265 02train5e4  50MSE012 1.46e-02 3.49e-02 3.36e-02NMSE05.86e-02MSEtr2.50e-03N500k2w0.1vm3:0
24266 02train5e4  50MSE012 6.79e-06 2.99e-06 1.68e-06NMSE05.55e-05MSEtr3.63e-05N500k2w0.1vm3:0
24267 11train5e4  50MSE012 3.38e-06 2.56e-06 4.16e-06NMSE04.12e-05MSEtr3.16e-05N500k2w0.1vm3:0
24268 03train5e4  50MSE012 1.75e-06 1.53e-06 2.12e-06NMSE01.77e-04MSEtr3.16e-05N500k2w0.1vm3:0
24269
24270 03train5e4  50MSE012 1.73e-06 1.42e-06 2.01e-06 NMSE01.75e-04MSEtr3.16e-05N500k2w0.1vm3:0
24271 11train5e4  50MSE012 3.70e-06 2.69e-06 3.59e-06 NMSE04.52e-05MSEtr3.32e-05N500k2w0.1vm3:0
24272 07train5e4  50MSE012 6.19e-06 2.11e-05 4.68e-06 NMSE04.68e-05MSEtr3.65e-05N500k2w0.1vm3:0
24273 02train5e4  50MSE012 1.88e-02 5.91e-02 4.23e-02 NMSE07.56e-02MSEtr2.97e-03N500k2w0.1vm3:0
24274
24275 02train5e4  50MSE012 1.47e-02 2.56e-02 4.38e-02 NMSE05.89e-02MSEtr2.56e-03N500k2w0.1vm3:-1
24276 03train5e4  50MSE012 1.75e-02 6.74e-02 3.55e-02 NMSE07.03e-02MSEtr3.25e-03N500k2w0.1vm3:1
24277 雑音のMSE=3.334155e-05
24278 データ数    can2online SVR      can2onlin   can2batch
24279 学習回数    5e4    5e4    maxle6   5e7         50(*5e4)
24280                    w=0.1
24281
24282 f03       1.830e-06 6.19287e-06 0.00000041 1.7736e-06
24283 f11       3.865e-06 1.113e-05  0.00000188 3.7047e-06
24284 f07       3.134e-05 1.92884e-05 0.00000529 8.0602e-06
24285 f02       1.665e-02 0.0149962  0.01811174 1.4668e-02
24286
24287 07train5e4 100MSE012 4.95e-06 1.61e-05 2.17e-06 NMSE04.05e-05MSEtr3.53e-05N500k2w0.1vm3:0
24288 07train5e4b1 100MSE012 3.21e-02 6.03e-06 1.37e-02 NMSE02.62e-01MSEtr3.55e-05N500k2w0.1vm3:0
24289 07train5e4b2 100MSE012 1.25e-01 6.07e-02 7.88e-06 NMSE01.02e+00MSEtr3.21e-05N500k2w0.1vm3:0
24290
24291 07train5e4  50MSE012 8.06e-06 3.00e-05 4.94e-06 NMSE06.59e-05 MSETr0.00e+00N500k2w0.1vm3:-1
24292 07train5e4b1 50MSE012 1.30e-02 7.93e-06 5.65e-03 NMSE01.07e-01 MSETr0.00e+00N500k2w0.1vm3:-1
24293 07train5e4b2 50MSE012 1.41e-01 6.42e-02 5.50e-06 NMSE01.15e+00S1.62e+00N500k2w0.1vm3:-1
24294
24295 03train5e4  >50ssp1.77e-06(1.43e-06,2.11e-06);1.79e-04N500k2w0.1vm3:-1
24296 03train5e4b1 >50ssp1.45e-04(1.17e-06,4.14e-05);1.47e-02N500k2w0.1vm3:-1
24297 03train5e4b2 >50ssp1.30e-02(2.99e-05,1.10e-06);5.20e-03N500k2w0.1vm3:-1
24298
24299 07train5e4  >50ssp8.06e-06(3.00e-05,4.94e-06);6.59e-05N500k2w0.1vm3:-1
24300 07train5e4b1>50ssp1.30e-02(7.93e-06,5.65e-03);1.07e-01N500k2w0.1vm3:-1
24301 07train5e4b2>50ssp1.41e-01(6.42e-02,5.50e-06);1.15e+00N500k2w0.1vm3:-1
24302 07train5e4b2>100ssp1.11e-02(6.17e-06,5.77e-04);9.04e-02N500k2w0.1vm3:-1
24303
24304
24305
24306 040120
24307 (1) bench2b.sh を実行
24308 040119
24309 width=0.8の can2batch の結果は fill に対して良くなかった。
24310 width=0.1とする と can2online より良い結果が得られ、最終時刻でも まあまあ
24311 の結果となった。
24312 can2
24313
```

```
24314 1                      #0:timeseries,1:chaos
24315 2 0                    #channels
24316 ./data/litrain5e4.dat  #training file
24317 ./data/litest.dat      #prediction file
24318 0 0 0 0     #y0max y1min y1max for normalization
24319 in                     #init_net
24320 500                    #n_cells #storing vectors
24321 6                      #n_compare
24322 0.5 3 -1               #v_thresh vmin vmin2
24323                        #v_ratio
24324 0.1                    #width  #window width
24325 ex                     #execute learning, test and prediction
24326 1                      #0:online,1:batch
24327 50                     #i_times # iterations to execute
24328 50                     #d_times #display
24329
24330 040119 f03 50ssp1.7736e-06>9ssp1.3566e-06(1.3728e-04)N500k2w0.1vm3:-1
24331 040119 f11 50ssp3.7047e-06>32ssp3.3536e-06(4.3379e-05)N500k2w0.1vm3:-1
24332 040119 f07 50ssp8.0602e-06>44ssp7.0511e-06(5.7659e-05)N500k2w0.1vm3:-1
24333 040120 f07100ssp4.9526e-06>100ssp4.9526e-06(4.0499e-05)N500k2w0.1vm3:0
24334 040119 f02 50ssp1.4668e-02>49ssp1.4405e-02(5.7825e-02)N500k2w0.1vm3:-1
24335 040119 f02 50ssp1.5255e-02>36ssp1.4145e-02(5.6783e-02)N1000k2w0.1vm3:0
24336 040119 f02 50ssp2.8856e-06>8ssp1.8416e-06(1.8636e-04)N1000k2w0.1vm3:0
24337 040119 f11100ssp3.8879e-06>32ssp3.3536e-06(4.3379e-05)N500k2w0.1vm3:-1
24338 if(GlobalTime<ReiniiTime+5) return(0);のとき
24339 040120 f03 50ssp5.4152e-06>50ssp5.4152e-06(4.4281e-05)N500k2w0.1vm3:0
24340 040120 f03 50ssp1.7329e-06>9ssp1.3566e-06(1.3728e-04)N500k2w0.1vm3:0
24341
24342          can2batch  can2online SVR      can2online
24343 データ数   5e4    5e4    5e4       5e7
24344 学習回数   50(*5e4)          maxle6    5e5
24345          w=0.1
24346 f03       1.7736e-06 1.830e-06  6.19287e-06 0.00000041
24347 f11       3.7047e-06 3.865e-06  1.113e-05  0.00000188
24348 f07       8.0602e-06 3.134e-05  1.92884e-05 0.00000529
24349 f02       1.4668e-02 1.665e-02  0.0149962  0.01811174
24350
24351 vmin2=0 として みた (f02が不満足)
24352 040119 f03 50ssp1.7329e-06>9ssp1.3566e-06(1.3728e-04)N500k2w0.1vm3:0
24353 040119 f11 50ssp3.7047e-06>32ssp3.3536e-06(4.3379e-05)N500k2w0.1vm3:0
24354 040119 f07 50ssp6.1905e-06>50ssp6.1905e-06(5.0621e-05)N500k2w0.1vm3:0
24355 040119 f02 50ssp1.8339e-02>17ssp1.4795e-02(5.9392e-02)N500k2w0.1vm3:07NG
24356 040119 f02 50ssp1.7824e-02>3ssp1.3843e-02(5.5572e-02)N500k2w0.1vm3:1
24357
24358 width=0.2でもやってみた (f02の結果が不満足)
24359 040119 f03 50ssp1.6149e-06>7ssp1.3624e-06(1.3786e-04)N500k2w0.2vm3:-1
24360 040119 f11 50ssp3.7849e-06>39ssp3.6869e-06(4.5006e-05)N500k2w0.2vm3:-1
24361 040119 f07 50ssp6.9569e-06>44ssp6.2591e-06(5.1182e-05)N500k2w0.2vm3:-1
24362 040119 f02 50ssp1.8785e-02>10ssp1.4537e-02(5.8355e-02)N500k2w0.2vm3:-1
24363 040119 f02 50ssp1.8600e-02>10ssp1.4537e-02(5.8355e-02)N500k2w0.2vm3:0
24364 040119 f02 50ssp1.7421e-02>10ssp1.4537e-02(5.8355e-02)N500k2w0.2vm3:1
24365 040119 f02 50ssp1.7292e-02>37ssp1.3831e-02(5.5524e-02)N500k2w0.2vm3:2
24366 040119 f02 50ssp1.6784e-02>10ssp1.4537e-02(5.835e-02)N500k2w0.2vm3:5
24367
24368          can2batch  can2online SVR      can2online
24369 データ数   5e4    5e4    5e4       5e7
24370 学習回数   100(*5e4)         maxle6
24371          w=0.8
24372          BestResult
24373 03train   1.3806e-06 1.830e-06  6.19287e-06 0.00000041
24374 11train   4.4272e-06 3.865e-06  1.113e-05  0.00000188
24375 07train   1.1927e-05 3.134e-05  1.92884e-05 0.00000529
24376 02train   1.2426e-02 1.665e-02  0.0149962  0.01811174
24377
24378
24379
24380 040116
24381 (1)net_save()と net_load()の整合性をとった。
24382 GlobalTimeをセーブするようにした。
24383 040115
24384 (1) GSL(正確な最小2乗解法)による modify_M_batch のルーチンの誤りを訂正し、実験した。
24385 コンパイル方法は
24386      make "GSL=1"
24387 040109
24388 (1) vが vmin2 以下のユニットは削除。vmin2=-1のと き何もしない。
24389
24390 040108
24391 (1)my_plinn.c で 荷重ベクトルの更新式と学習係数を説明しやすいように
24392 以下のように変更した。
24393 http://terasu.cntl.kyutech.ac.jp/~kuro/sotu/2004/ueno/docs/03ieice_kuro.tex
24394 を参照。
24395 (1-1) my_plinn.c で 荷重ベクトルの更新式を以下のような感じで変えた。
```

```
24396      delta_wic = 0.0;
24397      for(j=0; j<n_channels; j++)
24398          delta_wic +=
24400              (FLOAT)square(x[j]-net->cell[sil].w[j]);
24401      delta_wic = (FLOAT)sqrt(delta_wic/2);
24402
24403      (1-2)my_plinn.cで学習係数を以下のような感じで変えた。
24404      for(k=0;k<n_channels);k++){
24405          dwNorm+= square(net->cell[i].dw[k]);
24406      //   if(dwNorm=fabs(net->cell[i].dw[k]);
24407          dwNorm=fabs(net->cell[i].dw[k]);
24408      }
24409      // dwNorm=sqrt(dwNorm);
24410
24411  040116
24412  (1)セーブとロードのチェック。
24413  can2
24414  1
24415  2  0
24416  ./data/03train5e4.dat        #training file
24417  ./data/03test.dat            #prediction file
24418  0  0  0  0     #y0min y0max y1min y1max for normalization
24419  in                           #init_net
24420  500                          #n_cells #storing vectors
24421  6                            #n_compare
24422  0.5  3  -1                   #v_thresh vmin vmin2
24423  5                            #v_ratio
24424  0.1                          #width   #window width
24425  ex                           #execute learning, test and prediction
24426  1              #0:online,1:batch
24427  5              #i_times # iterations to execute
24428  ns             #d_times #display
24429
24430  temp.net
24431  ##sw
24432  qu
24433
24434  can2
24435  1
24436  2  0
24437  ./data/03train5e4.dat        #training file
24438  ./data/03test.dat            #prediction file
24439  0  0  0  0     #y0min y0max y1min y1max for normalization
24440  in                           #init_net
24441  500                          #n_cells #storing vectors
24442  6                            #n_compare
24443  0.5  3  -1                   #v_thresh vmin vmin2
24444  5                            #v_ratio
24445  0.1                          #width   #window width
24446  n1
24447  temp.net
24448  5                            #GlobalTime
24449  ex                           #execute learning, test and prediction
24450  1              #0:online,1:batch
24451  15             #i_times # #display
24452  15             #d_times #display
24453  5:0>   3sspl.4469e-06(1.4641e-04)N500k2w0.8vm3:-1
24454  5:1>   7sspl.4044e-06(1.4212e-04)N500k2w0.8vm3:-1
24455  5:2>   8sspl.4668e-06(1.4843e-04)N500k2w0.8vm3:-1
24456  5:3>  10sspl.37767e-06(1.3931e-04)N500k2w0.8vm3:-1
24457  5:4>  13sspl.404le-06(1.4209e-04)N500k2w0.8vm3:-1
24458  5:5>  14sspl.3229e-06(1.3387e-04)N500k2w0.8vm3:-1
24459  5:6>  14sspl.3449e-06(1.3610e-04)N500k2w0.8vm3:-1
24460  5:7>  11sspl.3832e-06(1.3997e-04)N500k2w0.8vm3:-1
24461  5:8>  12sspl.3490e-06(1.3651e-04)N500k2w0.8vm3:-1
24462  5:9>  13sspl.3340e-06(1.3499e-04)N500k2w0.8vm3:-1
24463  5:10>16sspl.3096e-06(1.3253e-04)N500k2w0.8vm3:-1
24464
24465  When initialize net->cell[i].am.P[k][l]=1e4;
24466  5:0>   9sspl.5109e-06(1.5289e-04)N500k2w0.8vm3:-1
24467  5:1>   4sspl.5744e-06(1.5932e-04)N500k2w0.8vm3:-1
24468  5:2>  12sspl.5910e-06(1.6100e-04)N500k2w0.8vm3:-1
24469  5:3>   4sspl.5842e-06(1.6031e-04)N500k2w0.8vm3:-1
24470  5:5>   6sspl.4380e-06(1.4551e-04)N500k2w0.8vm3:-1
24471  5:7>14sspl.4498e-06(1.4671e-04)N500k2w0.8vm3:-1
24472  5:9>   6sspl.4396e-06(1.4567e-04)N500k2w0.8vm3:-1
24473  When initialize net->cell[i].am.P[k][l]=1e3;
24474  5:0>  14sspl.4947e-06(1.5125e-04)N500k2w0.8vm3:-1
24475  5:1>   6sspl.5107e-06(1.5287e-04)N500k2w0.8vm3:-1
24476  5:3>   6sspl.5696e-06(1.5883e-04)N500k2w0.8vm3:-1
24477  5:5>11sspl.6103e-06(1.6295e-04)N500k2w0.8vm3:-1
```

```
24478
24479
24480  031211
24481  can2
24482  1
24483  2  0
24484  ./data/03train5e4.dat        #training file
24485  ./data/03test.dat            #prediction file
24486  0  0  0  0     #y0min y0max y1min y1max for normalization
24487  in                           #init_net
24488  500                          #n_cells #storing vectors
24489  6                            #n_compare
24490  0.5  3  -1                   #v_thresh vmin vmin2
24491  5                            #v_ratio
24492  0.8                          #width   #window width
24493  sr                           #show training data
24494  n                            #no
24495  sn                           #show network params
24496  sb                           #show batch params
24497  ex                           #execute learning, test and prediction
24498  1              #0:online,1:batch
24499  100            #i_times # iterations to execute
24500  100            #d_times #display
24501  //040115 modify_M_batchでMのGSLで初期化をする。
24502  040115 03train5e4>17sspl.5097e-06(1.5277e-04)N500k2w0.8vm3:-1GSL
24503  040115 03train5e4> 5sspl.4595e-06(1.4769e-04)N500k2w0.8vm3:0 GSL
24504  040115 03train5e4> 5sspl.4595e-06(1.4769e-04)N500k2w0.8vm3:1 GSL
24505  040115 03train5e4 >5sspl.4595e-06(1.4769e-04)N500k2w0.8vm3:2 GSL
24506  040115 03train5e4 >4sspl.4410e-06(1.4582e-04)N500k2w0.8vm3:3 GSL
24507  040115 03train5e4 >4sspl.4410e-06(1.4582e-04)N500k2w0.8vm3:4 GSL
24508  040115 03train5e4 >4sspl.4410e-06(1.4582e-04)N500k2w0.8vm3:5 GSL
24509  040115 03train5e4 >4sspl.4410e-06(1.4582e-04)N500k2w0.8vm3:-1GSL
24510
24511  040115 1ltrain5e4>10sspl.2472e-06(6.4052e-05)N500k2w0.8vm3:-1GSL
24512  040115 1ltrain5e4>:0 GSL
24513  040115 1ltrain5e4>10sspl.2472e-06(6.4052e-05)N500k2w0.8vm3:1 GSL
24514  040115 1ltrain5e4>:2 GSL
24515  040115 1ltrain5e4>10sspl.2472e-06(6.4052e-05)N500k2w0.8vm3:3 GSL
24516  040115 1ltrain5e4>10sspl.2472e-06(6.4052e-05)N500k2w0.8vm3:4 GSL
24517  040115 1ltrain5e4>10sspl.3448e-06(6.5244e-05)N500k2w0.8vm3:5 GSL
24518
24519  >18sspl.5833e-06(1.6022e-04)N500k2w0.8vm3
24520  //040115 modify_M_batchでMの初期化をする。
24521  040115 03train5e4>8sspl.6430e-06(1.6626e-04)N500k2w0.8vm4:-1
24522  040115 03train5e4>18sspl.5833e-06(1.6022e-04)N500k2w0.8vm3:-1
24523  040115 03train5e4>20sspl.5693e-06(1.5880e-04)N500k2w0.8vm3:-1
24524  040115 03train5e4>20sspl.5146e-06(1.5327e-04)N500k2w0.8vm3:1
24525  040115 03train5e4>1sspl.5320e-06(1.5503e-04)N500k2w0.8vm3:2
24526  040115 03train5e4>19sspl.5487e-06(1.5672e-04)N500k2w0.8vm3:3
24527  //040110 vmin2により、ユニットの削除
24528  040115 03train5e4>14sspl.3304e-06(1.3463e-04)N500k2w0.8vm5:-1
24529  040115 03train5e4>14sspl.3265e-06(1.3423e-04)N500k2w0.8vm4:-1
24530  040115 03train5e4>14sspl.3229e-06(1.3387e-04)N500k2w0.8vm3:-1
24531  040109 03train5e4>14sspl.3267e-06(1.3425e-04)N500k2w0.8vm2:-1
24532  040109 03train5e4>14sspl.3254e-06(1.3412e-04)N500k2w0.8vm3:-1
24533  040109 03train5e4>14sspl.3149e-06(1.3305e-04)N500k2w0.8vm3:1<!!!!
24534  040114 03train5e4>14sspl.3542e-06(1.3703e-04)N500k2w0.8vm3:2
24535  040114 03train5e4>1sspl.3989e-06(1.4156e-04)N500k2w0.8vm3:3
24536  040114 03train5e4>1sspl.3989e-06(1.4156e-04)N500k2w0.8vm3:4
24537  040115 03train5e4>20sspl.4059e-06(1.4227e-04)N500k2w0.8vm3:5
24538
24539  040114 03train5e4>4sspl.7361e-06(1.7568e-04)N100k2w0.8vm3:-1
24540  040114 03train5e4>7sspl.7275e-06(1.7482e-04)N100k2w0.8vm3:0
24541  040114 03train5e4>7sspl.7028e-06(1.7231e-04)N100k2w0.8vm3:1
24542  040114 03train5e4>7sspl.7009e-06(1.7212e-04)N100k2w0.8vm3:2
24543  040114 03train5e4>9sspl.7730e-06(1.7941e-04)N100k2w0.8vm3:3
24544
24545  040109 1ltrain5e4>33sspl.2675e-06(5.2093e-05)N500k2w0.8vm3:-1
24546  040109 1ltrain5e4>33sspl.2675e-06(5.2093e-05)N500k2w0.8vm3:0
24547  040109 1ltrain5e4>25sspl.3813e-06(5.3482e-05)N500k2w0.8vm3:-1
24548  040115 1ltrain5e4>35sspl.1880e-06(5.1123e-05)N500k2w0.8vm3:-1
24549  040115 1ltrain5e4>45sspl.3234e-06(5.2776e-05)N500k2w0.8vm3:-1
24550
24551  07train5e4>93sspl.2617e-05(1.0317e-04)N500k2w0.8vm3:-1
24552  07train5e4>99sspl.1225e-05(9.1788e-05)N500k2w0.8vm3:0
24553  07train5e4>98sspl.1585e-05(9.4736e-05)N500k2w0.8vm3:1
24554
24555  02train5e4>12sspl.2124e-02(4.8669e-02)N500k2w0.8vm3:-1
24556  02train5e4>12sspl.2124e-02(4.8669e-02)N500k2w0.8vm3:0
24557  02train5e4>12sspl.2124e-02(4.8669e-02)N500k2w0.8vm3:1
24558
24559  int vmin2=2,ii;//040109 for remove Unit
```

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```
24560 040109 03train5e4=14ssp1.3104e-06(1.3260e-04)N500k2w0.8vm3
24561 040109 11train5e4=35ssp4.3382e-06(5.2956e-05)N500k2w0.8vm3
24562 040109 07train5e4=87ssp1.5499e-05(1.2674e-04)N500k2w0.8vm3
24563 040109 02train5e4=12ssp1.2124e-02(4.8669e-02)N500k2w0.8vm3
24564 040109
24565 040109 03train5e4=14ssp1.3229e-06(1.3387e-04)N500k2w0.8vm3
24566 040109 11train5e4=33ssp4.2675e-06(5.2093e-05)N500k2w0.8vm3
24567 040109 07train5e4=93ssp1.2617e-05(1.0317e-04)N500k2w0.8vm3
24568 040109 02train5e4=12ssp1.2124e-02(4.8669e-02)N500k2w0.8vm3
24569 040109
24570 040107 07train5e4=447ssp7.1086e-06(5.8129e-05)N500k2w0.8vm3
24571
24572 031211 03train5e4> 5ssp1.3808e-06(1.3973e-04)N500k2w0.8vm3
24573 031211 11train5e4=35ssp4.4272e-06(5.4042e-05)N500k2w0.8vm3
24574 031211 07train5e4=96ssp1.1927e-05(9.7528e-05)N500k2w0.8vm3
24575 031211 02train5e4> 8ssp1.2426e-02(4.9881e-02)N500k2w0.8vm3
24576
24577       データ数    can2batch  can2online  SVR       can2online
24578       学習回数    5e4        5e4         max1e6    5e7
24579       03train     100(*5e4)  5e5         6.19287e-06 0.00000041
24580       11train     1.3808e-06 1.830e-06   1.113e-05   0.00000188
24581       11train     4.4272e-06 3.865e-06   1.9284e-05  0.00000529
24582       07train     1.1927e-05 3.134e-05   1.9284e-05  0.00000529
24583       02train     1.2426e-02 1.665e-02   0.0149962   0.01811174
24584
24585 031211 07train5e4=94ssp1.1179e-05(9.1417e-05)N500k2w0.8vm3 nl=net->vmin/(1.+GlobalTime/20.)+0.5;
24586
24587 030725m 02train5e4> 5ssp1.1347e-02(4.5550e-02)N500k2w0.1vm2
24588 030714e 07train5e4=100 MSE1.895141e-05(4.550582e-01 NMSE1.5497705e-04:3.721126e+00 N500
24589
24590 031110
24591 svrの導入 sim.c
24592 030726m
24593 (1) D.Yu,et al. "Phase space prediction of Chaotic Time Series" の結果
24594 との比較について。
24595 (1-1)
24596 santafe.datの1000-1100の予測誤差 NMSE=0.0258は、Yu等の結果 NMSE=0.027よ
24597 りも良い。本手法でも訓練データの一段予測の誤差は次のようなことが参考
24598 えられる：本手法では整数数データは注意するので丸め誤差があること、実データなの
24599 で、ノイズもあること、Yuの方法にてはないので、
24600 未知データの多段予測しにあかどうかは、（ノイズ的最小二乗法）Yuでは主に
24601 特異値分解(SVD)法?、本手法では逐次的最小二乗法によりもっと小さいと考える
24602 のか。
24603 (1-2)
24604 Yu等の結果は Lyapunov時間の5倍から10倍の時間まで予測可能だったと報告し
24605 ている。これは例えば初期時刻の誤差 E(0)が時刻t=5T~10Tで Emaxまでなる
24606 とすると、E(0)/Emax = exp(-5T/T)~exp(-10T/T)
24607        = 6.7379469909e-3~4.5399297625e-5
24608 程度の初期誤差があったことに相当するのか?（実験の誤差は初期誤差
24609 よりもネットが学習した力学系の誤差であり、各時刻で誤差が発生す?
24610 るので、その各時刻のシステム誤差は上よりもっと小さいと考えられる?)
24611 ただし十分長い時間長では誤差がでてくる。
24612 030716e
24613 (1)母音の多段予測で以前より良い結果が得られた（下の a3000.datがある実行
24614 例を参照）。RungeKuttaの精度が高いためよ点数術数)に生じる丸め誤差
24615 程度の (iii) RungeKuttaの精度を上げる (0-200)まで誤差は拡大しなかった (これは下である。よ
24616 ならば、信号の範囲で確かめられる)、また学習誤差(訓練誤差)の一段予測時の
24617 に、mspを実行して確かめられる)、また学習誤差(訓練誤差)の一段予測時の
24618 誤差は0になった。
24619 ところで(i),(ii)はシステム誤差、(iii)は観測誤差と解釈できる。
24620
24621
24622
24623
24624 030713
24625 (1) 一般に解析が求まらないカオス時系列はRungeKutta法等で数値解を得る。
24626 その数値解には
24627 (i)   母音の多段予測で以前より良い結果が (下の a3000.datがある実行
24628 (ii)  RungeKuttaの精度 (浮動小数点術数) による丸め誤差
24629 (iii) データをやり取りするときの丸め誤差 (通常有効数字6桁の浮動小数点)
24630 などが含まれ、生成された時系列は与えるその真のカオス時系列で
24631 このため実際にもカオス性はあり、それぞれ個々の数値を丸め時系列と解釈してよい
24632
24633
24634
24635
24636
24637 ---- (1). 関数近似において、バッチ型CAN2の能力はオンライン型CAN2より悪いと
24638 う。これは後者は無限個のデータを使うから考えれば理解できるので、しかし同
24639 じデータを使ったSVRの結果 (ieice0302/mse_N.datを参照)より良くできなかった。
24640 (→よくできた。030716)
24641
```

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```
24642 これはバッチ CAN2の能力の低さか?よ次項参照)
24643 (3) しかし Mackey-Glass 時系列予測において、バッチ型 CAN2の能力はオン
24644 ライン型 CAN2や SVR(jms02?)よりも良い結果が得られた。何故、関数近似の
24645 ときと違うのか ?????原因を追究すべき!!!
24646 1.MG時系列予測で modify_w_batchを無効にしても回様の実験をしても同じ位
24647 まで誤差は減少 (> 1000 MSE1.076172e-08:7.584495e-07)
24648 →MGの学習が誤差を下げる?だが一データは ほぼ同じなので理論的には何度学習し
24649 ても同じでは ?関数近似では ほぼ理論通りだが、chaos時系列の ときをどうしてで小
24650 さくなるの???
24651 2.データを同じにするため nl=n_channels+1;として も同様の結果
24652 →test誤差は ある
24653 3.am.cのq[0].Pの初期値の可能性
24654 →N=1のとき > 1000 MSE3.541228e-07:3.230648e-02(AM_VER=1)
24655 > 100 MSE9.918831e-09:3.523091e-06:if(i==j) q[0].P[i][j]=1.0e5;
24656 > 100 MSE2.853353e-08:1.052221e-06:if(i==j) q[0].P[i][j]=1.0e4://original
24657 > 100 MSE8.967174e-08:1.107123e-06:if(i==j) q[0].P[i][j]=1.0e3;
24658 →同じデータの学習を繰り返して誤差が小さい(1.0e05)と厳密解に近くなり test誤差が小さくてで
24659 るのが、predict(汎化)は良くない。逆にq[0].Pをさすぎる(1.0e03)と test誤差は ある
24660 まり小さくないし、predict誤差もそんなに小さくならない。
24661 4.厳密解を得る AM_VER=2では従が下でしかうまく働かないか?何故か?
24662 AM_VER=2で次元元手7のとき、test誤差は小さいがpredict誤差は大きい。
24663 →厳密(理論的)な議論でpredict誤差を小さくてはできないの???
24664 →x1と x2を(0.1..9)の範囲に限ったデータで07train5e4B5.datを学習近似する
24665 と、バッチ型 CAN2(MSE6.878440e-04)は逐次的 CAN2(MSE1.060333e-03)より良い成績
24666 が得られた。→外挿(汎化)能力?→これと同じ原理?
24667
24668 //
24669       ---   変更履歴まとめ (本当はもっと多く変更)--- history
24670 030726m
24671 (1) exec_sim()の途中で一段予測(ssp)と多段予測(msp)の最適なネットを保存
24672 するようにした。
24673 030725m
24674 (1)n1が変わったので修正。
24675 030723e
24676 (1)解像度をより一般化した。
24677 (2)正規化を導入：正規化した信号で学習し予測を行い、元にもどして誤差を
24678 測る。信号は givendata->x[t].givendata->y[t],
24679 処理信号は givendata->x[t].givendata->y[t]
24680 とし、calc_output()も変更。
24681 (3) 従来のpred は msp(多段予測)、従来のtest は ssp(一段予測)の観点から
24682 サブルーチン名や変数名などを変更した(結構大幅な変更)。
24683
24684 030717m
24685 (1) exec_pred()と exec_test()をそれぞれexec_msp_test()と exec_ssp_test()
24686 とした。
24687 (2). exec_msp_test()でデータの解像度が正整数などのとき、予測値は実数,
24688 誤差はその画像度で評価するようにした。
24689 (3)の のcalc_output()に第3引数を追加し
24690 NET *net, FLOAT *x, FLOAT *yr) とした。
24691 030716e
24692 (1)母音の解像度は1/15であり、かつ有効数字6桁まで(例えば0.066667≈1/15)
24693 のようだ。これに対応できるように calc_output()で特殊処理した。
24694 030714e
24695 (1) Santafe data (A.data.cont)のため calc_output()で整数型を導入→
24696 exec_sim()の入力が1つ増えた。
24697 (2) Santafe dataにはnl を別に(これは通常有効数字6桁のカオス時系列で
24698 nl=(V->i2v[i]+3)*(1./GlobalTime-1./(GlobalTimeMax);
24699 030713
24700
24701 (1) lorenz や07train は学習回数が小さく、width が小さい方が良いみたい?
24702 (2) カオス時系列を発生させる RungeKutta法との検討を行った。
24703 030710e
24704 (1) 短期予測結果を学習して、より長期の予測を行う方法を導入。
24705       コマンド は po, rosslerpo.sh, lorenzpo.sh を参照。
24706 030709e
24707 (1) reinit_cell_batch()を検討した。
24708 030708m
24709 (1)大幅に変えた。
24710       (a)init_net_batch(net, train->x, train->x, n_train);の後、
24711       (b)store_vector_batch(net, train->x, train->y, n_train);を繰り返す。
24712
24713 このカオス時系列にもカオス性はあり、それぞれ個々のカオス時系列と解釈してよい
24714
24715       init_net_batch(net, train->x, n_train);(は2つのルーチンで構成:
24716       (a-1)init_batch_wvector(net, x, n_train);と
24717       (a-2)init_Voronoi(net->V,net->n_cells,net->x,n_train);
24718
24719       store_vector_batch(net, train->x, train->y, n_train);は次のルーチンで構成:
24720       (b-1)calc_Voronoi(net,x_train,y_train, n_train);
24721       (b-2)modify_M_batch(net, x_train, y_train);
24722       (b-3)calc_alpha(net, x_train, y_train, n_train);
24723       (b-4)reinit_cell_batch(net, x_train, y_train,n_train);
```

```
24724     (b-5)modify_w_batch(net, x_train, y_train, n_train);
24725
24726  030704m
24727  (1)MSEでなく NMSE(MSE を信号の標準偏差で割ったもの)を出力するようにした。
24728  030702e
24729  (1)時系列データ・ファイルは値のみとする。よって以下の結果を得るには
24730  mackey-glass.dat でなく mackey2200.dat を使うこと。
24731  030702m
24732  (1) reinit_w_batch を修正。
24733  030701e
24734  (1)my_function.c で
24735  n1=bidata->m[i]+(n_channels+1-bidata->m[i])*
24736  (1./(GlobalTime-1./GlobalTimeMax);
24737  を導入
24738  030629e
24739  (1) modify_w_batch で選ざける処理を導入。
24740  (2) modify_w_batch で err_i の正規化処理を導入。
24741  030629m
24742  (1) modify_w_batch での荷重修正を一括して行うようにした。
24743  (2) ReinitRandom のところを少しかえた。(ReinitRandom はあまり良くない)
24744  030628e
24745  (1)v_i は相対値 v_i/v_max とした→v_thresh は 0～1 の範囲にする。
24746  (2)store_vector_batch (in my_plinm.c) の y_m の計算が間違ってた。
24747  (3)store_vector_batch (in my_plinm.c) のソートが逆だった。
24748  (4)init_batch.ivector (in my_function.c) をちょっと変えた。
24749  (5)sigma2_hat の計算方法を変えた。
24750  (6)net->ymin,ymax を導入→calc_output を変えた。
24751  (6)net->xmin,xmax を導入→modify_w_batch を変えた。
24752  (7)関数近似もできるようにした。
24753  ......
24754  030611
24755  (1)can_20030611.tar.bz2 がオリジナル
24756  -- 030722 以降の実行例 ---examples
24757  ●関数近似 function approximation
24758  can2
24759  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
24760  10                   #channels
24761  ./data/rossler5000_1e-3_100.dat #training file
24762  2000 4000            #Ttrain,Ttotal: points in time of training and total data
24763  0 0 0 0              #y0min y0max y1min y1max for normalization
24764  in                   #
24765  320                  #n_cells storing vectors
24766  20                   #n_compare
24767  0.5  3               #v_thresh v_min
24768  0.9                  #v_ratio
24769  0.9                  #width  window width
24770  sr                   #show training data show_data_parms(train);
24771  n                    #no
24772  sn                   #show network params
24773  sb                   #show batch params
24774  ex                   #execute
24775  1                    #i=0:online,i=1:batch
24776  100                  #iterations to execute
24777  10                   #display
24778  nl
24779  bestmsp.net
24780  msp
24781                       #0:timeseries,1:chaos prepare_data() in my_function.c
24782  030725e>100ssp2.8390e-05(1.0492e-06)88msp9.1745e-01(3.3904e-02)N320k10w0.9vm3
24783  030725e>72ssp4.3884e-06(1.62l7e-07)77msp2.2714e+00(8.3939e-02)N320k10w0.9
24784  030725m>64ssp2.5341e-05(9.3646e-07)74msp1.8634e+00(6.8861e-02)N320k10w0.9
24785  >100ssp2.5986e-05(9.6030e-07)88msp2.7531e+00(1.0174e-01)N320k10w0.9
24786  >10ssp3.2406e-05(1.1976e-06)6msp3.1384e+00(1.1598e-01)N320k10w0.9
24787  >50ssp5.2316e-05(1.9333e-06)3msp3.7621e+00(1.3903e-01)N500k10w0.9
24788  can2
24789  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
24790  9                    #channels
24791  ./data/rossler10000_1e-3_400.dat #training file
24792  5000 5500            #Ttrain,Ttotal: points in time of training and total data
24793  0 0 0 0              #y0min y0max y1min y1max for normalization
24794  in                   #
24795  300                  #n_cells storing vectors
24796  20                   #n_compare
24797  0.5  3               #v_thresh vmin
24798  10                   #v_ratio
24799  0.9                  #width  window width
24800  sr                   #show training data show_data_parms(train);
24801  n                    #no
24802  sn                   #show network params
24803  sb                   #show batch params
24804  ex                   #execute
24805  1                    #0:online,1:batch
```

```
24806  100                  #iterations to execute
24807  10                   #display
24808  nl
24809  bestmsp.net
24810  msp
24811  >86ssp1.0663e-05(3.9526e-07)51msp1.2673e+00(4.7109e-02)N350k9w0.9vm3
24812  >32ssp2.1494e-05(7.9901e-07)7msp1.3992e+00(5.2013e-02)N340k9w0.9vm3
24813  >75ssp3.678le-05(1.3673e-06)15msp5.7966e-01(2.1548e-02)N330k9w0.9vm3
24814  >100ssp3.1966e-05(1.1883e-06)30msp1.33l5e+00(4.9496e-02)N320k9w0.9vm3
24815  >100ssp1.1277e-04(4.1919e-06)8msp1.9397e+00(7.2107e-02)N300k9w0.9vm3
24816
24817                       #0:timeseries,1:chaos prepare_data() in my_function.c
24818  0
24819  10                   #channels
24820  ./data/rossler10000_1e-3_400.dat #training file
24821  2000 4000            #Ttrain,Ttotal: points in time of training and total data
24822  0 0 0 0              #y0min y0max y1min y1max for normalization
24823                       #
24824  in                   #n_cells storing vectors
24825  300                  #
24826  20                   #n_compare
24827  0.5  4               #v_thresh vmin
24828  10                   #v_ratio
24829  0.9                  #width  window width
24830  sr                   #show training data show_data_parms(train);
24831  n                    #no
24832  sn                   #show network params
24833  sb                   #show batch params
24834  ex                   #execute
24835  1                    #0:online,1:batch
24836  100                  #iterations to execute
24837  10                   #display
24838  nl
24839  bestmsp.net
24840  msp
24841  030725e>100ssp3.6684e-04(1.4258e-05)37msp4.4382e+00(1.7250e-01)N300k10w0.9vm4
24842  >93ssp2.8408e-04(1.0820e-05)68msp5.0046e+00(1.9061e-01)N480k10w0.9
24843  >90ssp3.5829e-04(1.4027e-05)61msp4.290le+00(1.6340e-01)N490k10w0.9
24844  >53ssp3.263le-04(1.2429e-05)49msp5.6514e+00(2.1525e-01)N510k10w0.9
24845  >52ssp5.6690e-04(2.1592e-05)91msp6.306le+00(2.4019e-01)N600k10w0.9
24846                       #
24847  >73ssp3.0289e-04(1.1536e-05)100msp6.0206e+00(2.293le-01)N400k10w0.9
24848  030723e>85ssp2.2592e-04(8.6049e-06)20msp5.8173e+00(2.2157e-01)N500k10w0.9
24849  030723e>41ssp3.4879e-04(1.3285e-05)59msp4.5173e+00(1.7205e-01)N500k10w0.9
24850  > 10 MSE2.848007e-04:9.813702e+00 NMSE1.084743e-05:3.737824e-01 N300k10
24851  > 10 MSE2.770285e-04:7.177966e+00 NMSE1.055141e-05:2.733930e-01 N400k10
24852  > 10 MSE2.484028e-04:9.377020e+00 NMSE9.461118e-06:3.571501e-01 N500k10
24853  > 10 MSE1.748636e-04:1.564719e+01 NMSE6.660172e-06:5.959669e-01 N500k12
24854  > 10 MSE5.049713e-04:9.782534e+00 NMSE5.049316e-05:3.725952e-01 N500k8
24855  can2
24856  1                    #0:timeseries,1:chaos
24857  2 0                  #channels
24858  ./data/07train5e4.dat #training file
24859  ./data/07test.dat    #prediction file
24860  0 0 0 0              #y0min y0max y1min y1max for normalization
24861  in                   #init_net
24862  500                  #n_cells storing vectors
24863  6                    #n_compare
24864  0.5  3               #v_thresh vmin
24865  5                    #v_ratio
24866  0.8                  #width  #window width
24867  sr                   #show training data
24868  n                    #no
24869  sn                   #show network params
24870  sb                   #show batch params
24871  ex                   #execute learning, test and prediction
24872  1                    #i_times # iterations to execute
24873  100                  #d_times #display
24874  nl
24875  bestssp.net
24876  ssp
24877  0401o7>96ssp1.1927e-05(9.7528e-05)N500k2w0.8vm3
24878  >94ssp1.1179e-05(9.14l7e-05)N500k2w0.8vm3
24879                       #
24880  031204l10ssp7.6526e-06:6.2577e-05msp4.5490e-01:3.7198e+00ssp03.2510e-04N500k2w0.8vm3??/031204の変更を
24881  したため、02data では良くない。
24882  030725m> 71ssp1.1116e-05(9.0896e-05)N500k2w0.8vm3
24883  030723e> 77ssp1.173389e-05:9.595103e-05 N500k2w0.8
24884  030711e> 77 MSE1.173389e-05:4.550532e-01 NMSE9.595103e-05:3.721085e+00 N500k2
24885  030714e>10 NMSE1.895141e-05:4.550582e-01 NMSE1.549705e-04:3.721126e+00 N500
24886  030708> 100 MSE3.191986e-05:4.550516e-01 NMSE2.610167e-04:3.721072e+00 N500
```

```
24887  030708>        50 MSE2.636177e-05/4.550214e-01
24888  NMSE2.155668e-04/3.720825e+00 N500
24889
24890  can2
24891  1                     #0:timeseries,l:chaos
24892  0                     #channels
24893  ./data/02train5e4.dat    #training file
24894  ./data/02test.dat       #prediction file
24895  0 0 0 0  #y0min y0max ylmin ylmax for normalization  #init_net
24896  in                    #n_cells #storing vectors
24897  500                   #n_compare
24898  6                     #v_thresh vmin
24899  0.5 2                 #v_ratio
24900  n                     #width  #window width
24901  0.1                   #show training data
24902  sr                    #no
24903  n                     #show network params
24904  sn                    #show batch params
24905  sb                    #execute
24906  ex
24907  1                     #0:online,l:batch
24908  100         #i_times # iterations to execute
24909  10          #d_times #display
24910  nl
24911  bestssp.net
24912  ssp
24913  030725m>   52sspl.1347e-02(4.5550e-02)N500k2w0.lvm2
24914  030723e>   83sspl.185377e-02 4.758460e-02 N500k2w0.1
24915  030718>    10 MSE1.297887e-02:4.689419e-01 NMSE5.210109e-02:1.882474e+00 N500k2w0.1
24916  030714e>   54 MSE1.265124e-02:4.687315e-01 NMSE5.078589e-02:1.881629e+00 N500
24917  030714e>   10 MSE1.297887e-02(width=0.1)
24918         Cf.bestSVR MSE1.4996e-02  =0.014996 #ofdata=2e3
24919         onlineCAN2 MSE1.990468e-02=0.01990468
24920
24921  ●時系列 timeseries
24922  can2
24923  0                     #0:timeseries,l:chaos prepare_data() in my_function.c
24924  5                     #channels
24925  ./data/lorenzl1000_1e-4_500.dat #training file
24926  1000 10300    #Ttrain,Ttotal: points in time of training and total data
24927  0 0 0 0        #y0min y0max ylmin ylmax for normalization
24928  in                    #
24929  400                   #n_cells storing vectors
24930  20                    #n_compare
24931  0.5 3                 #v_thresh
24932  10                    #v_ratio
24933  0.9                   #width  window width
24934  sr                    #show training data show_data_parms(train);
24935  n                     #no
24936  sn                    #show network params
24937  sb                    #show batch params
24938  ex                    #execute
24939  1                     #0:online,l:batch
24940  100         #iterations to execute
24941  10          #display
24942  nl
24943  bestmsp.net
24944  msp
24945  >100ssp4.4000e-06(7.1368e-08)7msp2.7110e+01(4.3974e-01)N400k5w0.9vm3
24946  >100ssp4.2920e-06(6.9617e-08)3msp3.2089e+01(5.2049e-01)N500k5w0.9vm3
24947
24948  can2
24949  0                     #0:timeseries,l:chaos prepare_data() in my_function.c
24950  10                    #channels
24951  ./data/lorenzl10000_1e-4.dat #training file
24952  4000 4500     #Ttrain,Ttotal: points in time of training and total data
24953  0 0 0 0        #y0min y0max ylmin ylmax for normalization
24954  in                    #
24955  500                   #n_cells storing vectors
24956  20                    #n_compare
24957  0.5 3                 #v_thresh
24958  10                    #v_ratio
24959  0.9                   #width  window width
24960  sr                    #show training data show_data_parms(train);
24961  n                     #no
24962  sn                    #show network params
24963  sb                    #show batch params
24964  ex                    #execute
24965  1                     #0:online,l:batch
24966  100         #iterations to execute
24967  10          #display
24968
```

```
24969  nl
24970  bestmsp.net
24971  msp
24972  ld
24973  0                     #0:timeseries,l:chaos prepare_data() in my_function.c
24974  10                    #channels
24975  ./data/lorenzl10000_1e-4.dat #training file
24976  4000 5000     #Ttrain,Ttotal: points in time of training and total data
24977  0 0 0 0        #y0min y0max ylmin ylmax for normalization
24978  in                    #
24979  030725m>>100ssp1.4081e-05(2.2362e-07)15msp3.8052e-01(6.0430e-03)N500k10w0.9vm3
24980  100compare 030710e-05(3.2062e-07)4msp2.7902e+01(4.4310e-01)N800k10w0.9vm4
24981  >100ssp1.1517e-06(1.8291e-08)79msp4.6041e+01(7.3117e-01)N300k10w0.9vm4
24982  >100ssp5.1793e-06(8.2252e-08)msp3.689957e+01(5.8600e-01)N400k10w0.9vm4
24983  >53ssp7.102e-06(1.1280e-07)45msp5.5793e+01(8.8605e-01)N500k10w0.9vm4
24984  >100ssp1.6170e-05(2.5679e-07)20msp2.9930e+01(4.7531e-01)N500k10w0.9vm4
24985  >100ssp1.9434e-05(3.0863e-07)64msp2.4456e+01(3.8838e-01)N600k10w0.9vm3
24986  >70ssp1.9020e-05(3.0206e-07)10msp3.3998e+01(5.3992e-01)N700k10w0.9vm3
24987
24988  030723e>88ssp1.2917e-04(2.0513e-06)50msp2.3147e+00(3.6760e-02)N800k10w0.9
24989  030717>        47 MSE1.336571e-04/2.357905e+01 NMSE2.122590e-06/3.744558e-01N800k10
24990  030718>    10 MSE1.297887e-02:4.689419e-01 NMSE5.210109e-02:1.882474e+00 N800k10
24991  この誤差は sigma=1e-5 1e-6のシステム誤差が加わった応答と ほぼ 逆等 しい。
24992  (../gmp/examples.kuro/でgnuplot を実行し
24993  plot [2000:5000] "mackey10000_1e-3_p128_2000+1e-5.dat" using 0:1, "mackey5000_1e-3_p128_2000+1e-5.dat" using 0:
24994
24995  をして確かめよ。
24996  )
24997  030717>12 MSE1.712460e-04:3.371515e+01 NMSE2.719536e-06:5.354259e-01 N800k10
24998  030712e>10 MSE1.268072e-05:1.588170e+01 NMSE2.013809e-07:2.522153e-01N800W0.1
24999  030712e>10 MSE7.867260e-06:5.820007e+01 NMSE1.249389e-07:9.242678e-01N500
25000  RungeKutta刻み幅1e-4で生成した時系列 ./data/lorenzl10000_1e-4.datのCAN2
25001  での予測は RungeKutta刻み幅1e-5で生成した時系列より も良い。
25002  Cf. plot [4000:4500] "lorenzl10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_1e-5.dat" using 5:1
25003  学習
25004  #define SLMODE 1 で chaosgmp 1002 10000 1e-4 250   > lorenzl10000_1e-4.dat
25005  #define SLMODE -1 で chaosgmp 1002 10000 1e-3 25    > lorenzl10000_1e-4_1e-3.dat
25006  #define SLMODE -1 で chaosgmp 1002 5000 1e-5 2500   > lorenz5000_1e-4_1e-5.dat
25007  plot [4000:45001] "lorenzl10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_1e-3.dat" using 5:1
25008  plot [4000:45001] "lorenz10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_1e-5.dat" using 5:1
25009  can2
25010  40  0                 #0:timeseries,l:chaos prepare_data() in my_function.c
25011  in                    #channels
25012  ./data/mackey10000_1e-3_p128.dat #training file
25013  2000 4000     #number of training data get_data_parms in my_function.c
25014  0 0 0 0        #y0min y0max ylmin ylmax for normalization
25015  in                    #
25016  200                   #n_cells storing vectors
25017  20                    #n_compare
25018  0.5 4                 #v_thresh vmin
25019  10                    #v_ratio
25020  0.2                   #width  window width
25021  sr                    #show training data show_data_parms(train):
25022  n                     #no
25023  sn                    #show network params
25024  sb                    #show batch params
25025  ex                    #execute
25026  1                     #0:online, l:batch
25027  100         #iterations to execute
25028  10          #display
25029  nl                    ****最適多段予測結果 を示すネット の 読込 み
25030  bestmsp.net
25031  msp
25032  *****より 長期予測
25033  ld                    ****より 長期予測
25034  0                     #0:timeseries,l:chaos prepare_data() in my_function.c
25035  40  0                 #channels
25036  ./data/mackey10000_1e-3_p128.dat #training file
25037  2000 8000     #number of training data get_data_parms in my_function.c
25038  0 0 0 0        #y0min y0max ylmin ylmax for normalization
25039  msp
25040  *****
25041         Minimum MSE(NMSE) for ssp and msp:
25042  030725m>>100ssp5.2378e-08(1.0196e-06)84msp1.3808e-05(2.6880e-04)N200k40w0.2
25043  030725m>50sspl.5615e-06(3.0397e-05)28msp1.1989e-04(2.3338e-03)N500k40w0.2
25044  030723e>   50sp1.6840e-06(3.2782e-05)28msp1.3052e-04(2.5409e-03)N500k40w0.2
25045  030717 >   28 MSE1.734424e-06:1.305244e-04 NMSE3.376386e-05:2.540906e-03N500k40
25046  030718e>   14 MSE3.193041e-06:1.208829e-02NMSE1.318319e-05:4.990925e-02 N500k40w0.2
25047  can2
25048  0                     #0:timeseries,l:chaos prepare_data() in my_function.c
25049  50                    #channels j k
```

```
25050  ./data/santafe.dat #training file
25051  1000 1100        #Ttrain,Ttotal: points in time of training and totaldata
25052  0 255 0 1        #y0min y0max y1min y1max for normalization
25053  1 1              #integers r1 r2 for the resolution r1/r2
25054  in               # init net
25055  320              #n_cells storing vectors
25056  10               #n_compare
25057  0.5 4            #v_ratio
25058  10               #v_thresh
25059  0.9              #width  window width
25060  sr               #show training data show_data_parms(train);
25061  n                #no
25062  sn               #show network params
25063  sb               #show batch params
25064  ex               #execute
25065  1                #i j k :i=0:online,i=1:batch, j/k は分解能(resolution)
25066  50               #iterations to execute
25067  10               #display
25068  nl
25069  bestmsp.net
25070  msp
25071  030725m>25ssp9.8380e+01(3.1959e-02)2msp8.2610e+01(2.6836e-02)N320k50w0.9vm4
25072  030723e>3ssp9.6810e+01(3.1449e-02)69msp8.4820e+01(2.7554e-02)N320k50w0..9
25073  030723e>3ssp9.6810e+01(3.1449e-02)32msp8.5000e+01(2.7612e-02)N320k50w0..9
25074  030722e>  50 MSP9.8020000e+01:8.500000e+01 NMSE3.184178e-02:2.761223e-02 N320k50w0.9
25075  can2  best online CAN2 pr3.44e-02N300p51q2
25076  best Sauer 0.080
25077  best Wo   0.028
25078  030717m>10 MSE9.78300e+01:9.441000e+01 NMSE3.178005e-02:3.066907e-02 N320k50
25079  030716e>10 MSE9.78300e+01:9.494000e+01 NMSE3.178005e-02:3.084124e-02 N320k50
25080  030714e>10 MSE9.662000e+01:9.757000e+01 NMSE3.138699e-02:3.169559e-02 N320
25081  030714e>100 MSE8.641000e+01:1.3695+40e+03 NMSE2.807027e-02:4.448948e-01 N320
25082  can2  pr3.44e-02N300p51q2
25083  0                #0:timeseries,l:chaos prepare_data() in my_function.c
25084  80               #channels
25085  ./data/a3000.dat #training file
25086  2001 3000 #number of training data get_data_parms in my_function.c
25087  0 255 0 255       #y0min y0max y1min y1max for normalization
25088  1 15             #integers r1 r2 for the resolution r1/r2
25089  in               #n_cells storing vectors
25090  300              #n_compare
25091  20               #v_thresh
25092  0.5 4            #v_ratio
25093  10               #v_thresh
25094  0.1              #width  window width
25095  sr               #show training data show_data_parms(train);
25096  n                #no
25097  sn               #show network params
25098  sb               #show batch params
25099  ex               #execute
25100  1                #0:online,1:batch
25101  50               #iterations to execute
25102  100              #display
25103  nl
25104  bestmsp.net
25105  msp
25106
25107  msp              #multi-step prediction of test data
25108  msp0             #multi-step prediction of training data
25109  ssp0             #single-step prediction of training data
25110  030726m>1ssp2.8643e+01(2.7002e-02)5msp1.3356e+02(1.2590e-01)N300k80w0.1vm4255
25111  030725m>1ssp2.7978e+01(2.6375e-02)2msp1.3687e+02(1.2903e-01)N300k80w0.1vm4
25112  030723e>1ssp2.7651e+01(2.6067e-02)11msp1.3373e+02(1.2607e-01)N300k80w0.1
25113  030723e>32 MSE2.8617006e+01:1.364132e+02 NMSE2.697767e-02:1.285984e-01 N300k80w0.1
25114  030717> 3 MSE2.914907e+01:1.356715e+02 NMSE2.747921e-02:1.279029e-01 N300k80
25115  030716e>3 MSE2.914907e+01:1.356175e+02 NMSE2.747921e-02:1.278484e-01 N300k80
25116  030714e>  44 MSE4.057070e+00:4.472216e+02 NMSE3.824653e-03:4.216015e-01 N2
25117  030714e>  38 MSE1.168617e+01:5.058930e+02 NMSE1.101670e-02:4.769118e-01 N8
25118  030714e>  36 MSE1.626241e+01:6.993439e+02 NMSE1.533078e-02:6.591862e-01 N12
25119  030714e>  9 MSE1.591293e+01:8.132485e+02 NMSE1.500132e-02:7.666599e-01 N12
25120  030714e>  9 MSE7.013160e+00:1.087398e+02 NMSE6.593e-03:1.005064e-01 N10
25121  030714e>  6 MSE6.992606e+00:9.966561e+01 NMSE6.592020e-03:9.395606e-02 N10
25122  --- 030709以降の実行例 ---
25123  ●関数近似
25124  can2             #0:timeseries,l:chaos
25125  2 0              #channels
25126  1                #channels
25127  ./data/07train5e4.dat #training file
25128  ./data/07test.dat #prediction file
25129  in               #init_net
25130  500              #n_cells #storing vectors
25131  6                #n_compare
```

```
25132  0.5              #v_thresh
25133  5                #v_ratio
25134  0.8              #width  #window width
25135  sr               #show training data
25136  n                #no
25137  sn               #show network params
25138  sb               #show batch params
25139  ex               #execute learning, test and prediction
25140  1                #i j k :i=0:online,i=1:batch, j/k は分解能(resolution)
25141  100              #i_times # iterations to execute
25142  100              #d_times #display
25143  ns               #net_save
25144  07net.dat
25145  qu
25146
25147  can2             #0:timeseries,l:chaos
25148  1                #channels
25149  2                #training file
25150  ./data/07train5e4.dat #training file
25151  ./data/07test.dat #prediction file
25152  nl
25153  07net.dat
25154  ex               #execute learning, test and prediction
25155  1                #0:online,1:batch //init_net
25156  100              #i_times # iterations to execute
25157  100              #d_times #display
25158  qu               #0:timeseries,l:chaos
25159  030714e> 100 MSE1.895141e-05:4.550582e-01 NMSE1.549705e-04:3.721126e+00 N500
25160  030708> 100 MSE3.191986e-05:4.550516e-01 NMSE2.610167e-04:3.721072e+00 N500
25161  030708> 50 MSE2.63177e-05:4.550214e-01 NMSE2.155668e-04:3.720825e+00 N500
25162  030702m>       >50 MSE3.669258e-05
25163  Cf.       SVR  MSE1.92884e-05
25164  030702m>       50 MSE3.225098e-05(width=0.9)
25165  030702m>       >50 MSE3.528878e-05
25166  030702m>       >50 MSE3.669258e-05
25167  逐次CAN2 f07 LM05  MSE4.987910e-05
25168  after030701e> 100 MSE6.853463e-05    コマンドは下
25169
25170  ./data/07train5e4B5.dat  #training file
25171  > 100 MSE8.061614e-04:1.844380e-01 NMSE6.592186e-03:1.508196e+00 N500width0.8
25172  > 100 MSE8.055997e-04:1.883815e-01 NMSE6.587593e-03:1.540443e+00 N500 width0.1
25173  onlineCAN2>>f07 LM05 MSE012:1.060333e-03,1.307766e-06,4.390513e-03 MaxAbs0.38677 MeanAbs0.00761 Nois
e0.010 N500 AV1 b5
25174
25175  can2             #0:timeseries,l:chaos
25176  1                #channels
25177  2                #training file
25178  ./data/02train5e4.dat #training file
25179  ./data/02test.dat #prediction file
25180  in               #n_cells #storing vectors
25181  500              #n_compare
25182  6                #v_thresh
25183  0.5              #v_ratio
25184  5                #width  #window width
25185  0.1              #width  #window width
25186  sr               #show training data
25187  n                #no
25188  sn               #show network params
25189  sb               #show batch params
25190  ex               #execute
25191  1 0 1            #i j k :i=0:online,i=1:batch, j/k は分解能(resolution)
25192  54               #i_times # iterations to execute
25193  100              #d_times #display
25194  030718>       10 MSE1.297887e-02:4.689419e-01 NMSE5.210109e-02:1.882474e+00 N500k2w0.1
25195  030717e>      87 MSE1.191414e-02:4.687109e-01 NMSE4.782696e-02:1.881547e+00 N500k2
25196  030716e>      54 MSE1.265124e-02:4.687315e-01 NMSE5.078589e-02:1.881629e+00 N500
25197  030714e>      10 MSE1.297887e-02(width=0.1)
25198  Cf.bestSVR  MSE1.4996e-02 =0.014996 #ofdata=2e3
25199  onlineCAN2 MSE1.990468e-02=0.0199046B
25200  030713:
25201  030710e>      10 MSE1.300175e-02 (width=0.1)
25202  030709e>      50 MSE1.388465e-02: 不安定
25203  030708e>      50 MSE1.325553e-02: 不安定
25204  030702m>       100 MSE1.428304e-02
25205  030702m>        > 50 MSE1.417297e-02
25206  after030701e> 100 MSE1.303592e-02
25207  after030629e> 100 MSE1.311778e-02: alpha=0.02*(1.-GlobalTime./GlobalTimeMax);//
25208  after030629e> 100 MSE1.354559e-02
25209  before030629e> 100 MSE1.335028e-02
25210  ●時系列
25211  can2
25212  0                #0:timeseries,l:chaos prepare_data() in my_function.c
```

```
25213 50 1 1        #channels j k: j/kは分解能 (resolution)
25214 ./data/santafe.dat #training file
25215 1000 1100      #Ttrain,Ttotal: points in time of training and total data
25216 in             #
25217 320            #n_cells storing vectors
25218 10             #n_compare
25219 0.5            #v_thresh
25220 1.0            #v_ratio
25221 0.9            #width  window width
25222 sr             #show training data show_data_parms(train);
25223 n              #no
25224 sn             #show network params
25225 sb             #show batch params
25226 ex             #execute
25227 1 1            #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25228 10             #iterations to execute
25229 10             #display
25230 best online CAN2 pr3.44e-02N300p5lq2
25231 best Sauer 0.080
25232 best Wo 0.028
25233 030717m>10 MSB9.783000e+01;9.441000e+01 NMSE3.178005e-02;3.066907e-02 N320k50
25234 030716e>10 MSB9.783000e+01;9.494000e+01 NMSE3.178005e-02;3.084124e-02 N320k50
25235 030714e>10 MSB9.662000e+01;9.757000e+01 NMSE3.138699e-02;3.169559e-02 N320
25236 030714e>100 MSB8.641000e+01;1.369540e+03 NMSE2.807027e-02;4.448948e-01 N320
25237 can2
25238 0              #0:timeseries,1:chaos prepare_data() in my_function.c
25239 80 1 15        #channels
25240 ./data/a3000.dat   #training file
25241 2001 3000      #number of training data get_data_parms in my_function.c
25242 in             #
25243 300            #n_cells storing vectors
25244 20             #n_compare
25245 0.5            #v_thresh
25246 10             #v_ratio
25247 0.1            #width  window width
25248 sr             #show training data show_data_parms(train);
25249 n              #no
25250 sn             #show network params
25251 sb             #show batch params
25252 ex             #execute
25253 1 1 15         #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25254 3              #iterations to execute
25255 100            #display
25256 msp            #multi-step prediction of test data
25257 msp0           #multi-step prediction of training data
25258 ssp0           #single-step prediction of training data
25259 030717> 3 MSE2.914907e+01;1.356175e+02 NMSE2.747921e-02;1.279029e-01 N300k80
25260 030716e>3 MSE2.914907e+01;1.356175e+02 NMSE2.747921e-02;1.278484e-01 N300k80
25261 030714e> 44 MSE4.057070e+00;4.472216e+02 NMSE3.824653e-03;4.216015e-01 N2
25262 030714e> 38 MSE1.168617e+01;5.058930e+02 NMSE1.101670e-02;4.769118e-01 N8
25263 030714e> 36 MSE1.626241e+01;6.992439e+02 NMSE1.533078e-02;6.591862e-01 N12
25264 030714e> 9 MSE1.591293e+01;8.132485e+02 NMSE1.500132e-02;7.666599e-01 N12
25265 030714e> 9 MSE7.013160e+01;1.087398e+02 NMSE6.611396e-03;1.025104e-01 N10
25266 030714e> 6 MSE6.992606e+00;9.966561e+01 NMSE6.592020e-03;9.395606e-02 N10
25267 can2
25268 0              #0:timeseries,1:chaos prepare_data() in my_function.c
25269 10             #channels
25270 ./data/lorenz10000_1e-4.dat #training file
25271 4000 4500      #Ttrain,Ttotal: points in time of training and total data
25272 in             #
25273 800            #n_cells storing vectors
25274 20             #n_compare
25275 0.5            #v_thresh
25276 10             #v_ratio
25277 0.9            #width  window width
25278 sr             #show training data show_data_parms(train);
25279 n              #no
25280 sn             #show network params
25281 sb             #show batch params
25282 ex             #execute
25283 1 0 1          #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25284 47             #iterations to execute
25285 10             #display
25286 030717> 47 MSE1.336571e-04;2.357905e+01 NMSE2.122590e-06;3.744558e-01N800k10
25287 ↑この誤差は sigma=5`1e-6の システム誤差が加わった応答とほぼ等しい。
25288 (../gmp/examples_kuro/で gnuplot を実行し、
25289 plot [2000:5000] "mackey10000_1e-3_p128.dat" using 0:1,"mackey5000_1e-3_p128_2000+1e-5.dat" using 0:
25290 1
25291 をして確かかよ。
25292
25293 030717>12 MSE1.712460e-04;3.371515e+01 NMSE2.719536e-06;5.354259e-01 N800k10
```

```
25294 030712e>10 MSE1.268072e-05;1.588170e+01 NMSE2.013809e-07;2.522153e-01N800W0.1
25295 030712e>10 MSE7.867260e-06;5.820007e+01 NMSE1.249389e-07;9.242678e-01N500
25296 RungeKutta刻み幅1e-4で生成し./data/lorenz10000_1e-4.datのCAN2
25297 での予測は RungeKutta刻み幅1e-5で生成した時系列より も良い。
25298 Cf._plot [4000:4500] "lorenz10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_le-5.dat" using 5:1
25299 学習
25300 #define SLMODE 1 で chaosgmp 1002 10000 1e-4 250    > lorenz10000_1e-4.dat
25301 #define SLMODE -1 で chaosgmp 1002 10000 1e-3 25    > lorenz10000_1e-4_le-3.dat
25302 #define SLMODE -1 で chaosgmp 1002 5000 1e-5 2500    > lorenz5000_1e-4_le-5.dat
25303 plot [4000:4500] "lorenz10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_le-3.dat" using 5:1
25304 plot [4000:4500] "lorenz10000_1e-4.dat" using 5:1, "lorenz5000_1e-4_le-5.dat" using 5:1
25305 can2
25306 0              #0:timeseries,1:chaos prepare_data() in my_function.c
25307 10             #channels
25308 ./data/lorenz10000_1e-4_p128.dat #training file
25309 9000 10000     #Ttrain,Ttotal: points in time of training and total data
25310 in             #
25311 300            #n_cells storing vectors
25312 20             #n_compare
25313 0.5            #v_thresh
25314 10             #v_ratio
25315 0.8            #width  window width
25316 sr             #show training data show_data_parms(train);
25317 n              #no
25318 sn             #show network params
25319 sb             #show batch params
25320 ex             #execute
25321 1 0 1          #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25322 10             #iterations to execute
25323 10             #display
25324 030716m>10 MSE1.061265e-06;1.027629e+02 NMSE1.672770e-08;1.619761e+00 N300
25325 set data style lines
25326 plot [9000:10000] "lorenz9000_10000_1e-3_p128.dat" using 0:1,"lorenz10000_1e-4_p128.dat" using 0:1
25327 can2
25328 0              #0:timeseries,1:chaos prepare_data() in my_function.c
25329 10             #channels
25330 ./data/lorenz10000_1e-4_p64.dat #training file
25331 1500 2000      #Ttrain,Ttotal: points in time of training and total data
25332 in             #
25333 300            #n_cells storing vectors
25334 20             #n_compare
25335 0.5            #v_thresh
25336 10             #v_ratio
25337 0.9            #width  window width
25338 sr             #show training data show_data_parms(train);
25339 n              #no
25340 sn             #show network params
25341 sb             #show batch params
25342 ex             #execute
25343 1 0 1          #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25344 100            #iterations to execute
25345 10             #display
25346 030715> 100 MSE2.509255e-04;8.770646e+01 NMSE3.983612e-06;1.392399e+00 N300
25347 030715> 100 MSE1.427048e-04;1.253523e+02 NMSE2.265533e-06;1.990052e+00 N300
25348 can2
25349 0              #0:timeseries,1:chaos prepare_data() in my_function.c
25350 10             #channels
25351 ./data/rossler4000.dat #training file
25352 2000 4000      #Ttrain,Ttotal: points in time of training and total data
25353 in             #
25354 500            #n_cells storing vectors
25355 20             #n_compare
25356 0.5            #v_thresh
25357 10             #v_ratio
25358 0.9            #width  window width
25359 sr             #show training data show_data_parms(train);
25360 n              #no
25361 sn             #show network params
25362 sb             #show batch params
25363 ex             #execute
25364 1 0 1          #i j k :i=0:online,i=1:batch, j/kは分解能 (resolution)
25365 10             #iterations to execute
25366 10             #display
25373 > 10 MSE2.848007e-04;9.813702e+00 NMSE1.084743e-05;3.737824e-01 N300k10
25374 > 10 MSE2.770285e-04;7.177966e+00 NMSE1.055141e-05;2.733930e-01 N400k10
25375 > 10 MSE2.484028e-04;9.377020e+00 NMSE9.461118e-06;3.571501e-01 N500k10
```

```
25376  >   10 MSE1.748636e-04:1.564719e+01 NMSE6.660172e-06:5.959669e-01 N500k12
25377  >   10 MSE5.049713e-04:9.782534e+00 NMSE1.923325e-05:3.725952e-01 N500k8
25378  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
25379  10          #channels
25380  ./data/lorenz500_le-7.dat #training file
25381  499 500              #Ttrain,Ttotal: points in time of training and total data
25382  in           #
25383  500          #n_cells storing vectors
25384  20           #n_compare
25385  0.5          #v_thresh
25386  10           #v_ratio
25387  0.9          #width  window width
25388  sr           #show training data show_data_parms(train);
25389  n            #no
25390  sn           #show network params
25391  sb           #show batch params
25392  ex           #execute
25393  1            #0:online, 1:batch    init_net()       in my_plinn.c
25394  10           #iterations to execute
25395  10           #display
25396  -----------
25397
25398  can2
25399  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
25400  10          #channels
25401  ./data/lorenz5500.dat #training file
25402  5000 5500 #number of training data get_data_parms in my_function.c
25403  in           #
25404  500          #n_cells storing vectors
25405  20           #n_compare
25406  0.5          #v_thresh
25407  10           #v_ratio
25408  0.8          #width  window width
25409  sr           #show training data show_data_parms(train);
25410  n            #no
25411  sn           #show network params
25412  sb           #show batch params
25413  ex           #execute
25414  1 0          #0:online, 1:batch    init_net()       in my_plinn.c
25415  10           #iterations to execute
25416  10           #display
25417  030710>  10 MSE1.873005e-05:5.502901e+01 NMSE3.361462e-07:9.875994e-01 N500k10w0.9
25418  030710>  10 MSE1.961903e-05:5.311001e+01 NMSE3.521000e-07:9.531593e-01 N500k10w0.8
25419  030710>  10 MSE1.369495e-05:1.202579e+02 NMSE2.457817e-07:2.158255e+00 N500k12
25420
25421  can2
25422  40 0                 #0:timeseries,1:chaos prepare_data() in my_function.c
25423  10          #channels
25424  ./data/mackey5000_le-3.dat #training file
25425  2000 4000  #number of training data get_data_parms in my_function.c
25426  in           #
25427  500          #n_cells storing vectors
25428  20           #n_compare
25429  0.5          #v_thresh
25430  10           #v_ratio
25431  0.2          #width  window width
25432  sr           #show training data show_data_parms(train);
25433  n            #no
25434  sn           #show network params
25435  sb           #show batch params
25436  ex           #execute
25437  1 0          #0:online, 1:batch    init_net()       in my_plinn.c
25438  28           #iterations to execute
25439  100          #display
25440  030717 >  28 MSE1.734424e-06:1.305244e-04 NMSE3.376386e-05:2.540906e-03 N500k40
25441  030718e>  14 MSE3.193041e-06:1.208829e-02 NMSE1.318319e-05:4.990925e-02 N500k40w0.2
25442  このあと
25443  1d
25444  40                   #channels
25445  ./data/mackey5000_le-3.dat #training file
25446  2000 5000  #number of training data get_data_parms in my_function.c
25447  ↑ 28 MSE1.734424e-06:1.305244e-04 NMSE3.376386e-05:2.540906e-03 N500k40w0.2
25448  ↑ この誤差は sigma=1e-5' 1e-6のシステム誤差が加わった応答と ほぼ等しい。
25449  (../gmp/examples.kuro/でgnuplotを実行し、
25450  plot [4000:4500] "lorenz10000_le-4_p128.dat" using 0:1,"lorenz5000_le-4_p128_4000+1e-3.dat" using 0:
25451  1
25452  をして確かめよ。)
```

```
25457  または、↑で
25458  po
25459  temp.dat
25460  をしたあと、shellで
25461  ../gmp/examples.kuro/yyhat2mse ./data/mackey5000_le-3.dat ./temp.dat 2001 5000 > mse.dat
25462  gnuplot
25463  set data style lines
25464  plot [2001:5000] "mse.dat" using 6:1 t "rmse", "mse.dat" using 6:3 t "e"
25465  を行い、
25466  ../gmp/examples.kuro/で
25467  yyhat2mse mackey10000_le-3_p128_2000+1e-5.dat mackey5000_le-3_p128_2000+1e-5.dat 2001 5000 > mse.dat
25468  をし、
25469  gnuplot
25470  set data style lines
25471  plot [2001:5000] "mse.dat" using 6:1 t "rmse", "mse.dat" using 6:3 t "e"
25472  として比較。
25473
25474  030717>  56 MSE1.260689e-08:2.381440e-03 NMSE2.454171e-07:4.635927e-02 N100k40
25475  >   8 MSE4.173779e-08:3.928764e-03 NMSE8.125056e-07:7.648088e-02N100k40
25476
25477
25478  can2
25479  20                   #channels
25480  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
25481  ./data/mackey4000.dat #training file
25482  2000 4000  #number of training data get_data_parms in my_function.c
25483  in           #
25484  100          #n_cells storing vectors
25485  20           #n_compare
25486  0.5          #v_thresh
25487  10           #v_ratio
25488  0.2          #width  window width
25489  sr           #show training data show_data_parms(train);
25490  n            #no
25491  sn           #show network params
25492  sb           #show batch params
25493  ex           #execute
25494  1 0 1        #0:online, 1:batch
25495  10           #iterations to execute
25496  10           #display
25497  po                   #pred_out
25498  ./mackey4000_2000_2200.dat #filename
25499  200                  #steps
25500  qu                   #finish
25501  030709e>10 MSE1.459719e-07:2.295113e-02 NMSE2.837617e-06:4.461625e-01 N100
25502  030709e>10 MSE1.148912e-07:8.871068e-03 NMSE2.233425e-06:1.724490e-01 N100
25503  030709e>10 MSE1.165091e-07:8.446379e-03 NMSE2.264877e-06:1.641932e-01 N100
25504  > 100 MSE4.455066e-08:9.641944e-02 NMSE8.660418e-07:1.874344e+00 N100
25505
25506  030709e>       1000 MSE6.932338e-09:3.994570e-07
25507  030708e>       1000 MSE1.027852e-08:5.133564e-06
25508  030707         >   1000 MSE9.272000e-09:2.553664e-06(width=0.2)
25509  after030701e>       1000 MSE7.481811e-09:9.824534e-06(width=0.3)
25510  after030701e>       1000 MSE1.320137e-08:8.406145e-07 (width=0.1)
25511  after030701e >  1000 MSE1.009213e-08:5.891452e-07(predのMSEを尊重?width=0.2)
25512  after030629m > 1000 MSE6.783600e-09:7.154643e-06 noReinitRandom v_thresh0.5
25513  after030629m > 1000 MSE6.727869e-09:2.394590e-06 noReinitRandom v_thresh0.9***
25514  before030629m> 1000 MSE5.282576e-09:3.824018e-06 noReinitRandom
25515  v_thresh0.9
25516
25517  can2
25518  0                    #0:timeseries,1:chaos prepare_data() in my_function.c
25519  50          #channels
25520  ./data/a.dat #training file
25521  2001                 #number of training data get_data_parms in my_function.c
25522  in           #
25523  10           #n_cells storing vectors
25524  10           #n_compare
25525  0.5          #v_thresh
25526  10           #v_ratio
25527  0.2          #width  window width
25528  sr           #show training data show_data_parms(train);
25529  n            #no
25530  sn           #show network params
25531  sb           #show batch params
25532  ex           #execute
25533  1            #0:online, 1:batch    init_net()       in my_plinn.c
25534  100          #iterations to execute
25535  100          #display
25536  030704m> 100 NMSE3.788421e-03:3.119250e-01(k90N1)
25537  030704m> 100 NMSE4.016951e-03:2.835635e-01(k90N2)
25538  030704m> 100 NMSE3.751651e-03:9.901982e-01(k90N3)
```

```
25539 030704m> 100 NMSE4.031632e-03:8.618851e-01(k90N4)
25540 030704m> 100 NMSE4.291529e-03:1.910695e+00(k90N5)
25541 030704m> 100 NMSE6.118483e-03:1.561021e+00(k50N10)
25542
25543 --- 030702m以前の実行例 ---
25544 ●関数近似
25545
25546 can2                        #0:timeseries,1:chaos
25547 1                           #channels
25548 2                           #training file
25549 ./data/07train5e4.dat       #prediction file
25550 ./data/07test.dat           #0:online, 1:batch //init_net
25551 1                           #i_times # iterations to execute
25552 100                         #d_times #display
25553 100                         #n_cells #storing vectors
25554 500                         #n_compare
25555 6                           #v_thresh
25556 0.5
25557 5                           #v_ratio
25558 0.8                         #width  #window width
25559 sr                          #show training data
25560 n                           #no
25561 sn                          #show network params
25562 sb                          #show batch params
25563 ex                          #execute
25564 030708> 50 MSE2.636177e-05:4.550214e-01 NMSE2.155668e-04:3.720825e+00 N500
25565 030702m       >50 MSE3.669258e-05
25566 Cf.           SVR MSE1.928084e-05
25567 030702m       50 MSE3.225098e-05(width=0.9)
25568 030702m       >50 MSE3.528878e-05
25569 030702m       >50 MSE3.669258e-05
25570 遂次CAN2 f07 LM05 MSE4.987910e-05
25571 after030701e> 100 MSE6.853463e-05  コマンドは下
25572 can2                        #0:timeseries,1:chaos
25573 1                           #channels
25574 2                           #training file
25575 ./data/02train5e4.dat       #prediction file
25576 ./data/02test.dat           #0:online, 1:batch
25577 1                           #i_times # iterations to execute
25578 100                         #d_times #display
25579 100                         #n_cells #storing vectors
25580 500                         #n_compare
25581 6                           #v_thresh
25582 0.5
25583 5                           #v_ratio
25584 0.2                         #width  #window width
25585 sr                          #show training data
25586 n                           #no
25587 sn                          #show network params
25588 sb                          #show batch params
25589 ex                          #execute
25590 Cf.bestSVR MSE1.49996e-02 =0.014996
25591 onlineCAN2 MSE1.990468e-02:0.01990468
25592 030709e> 50 MSE1.388465e-02:不安定
25593 030708e> 50 MSE1.325553e-02:不安定
25594 030702m>    100 MSE1.423304e-02
25595 030702m>  > 50 MSE1.417297e-02
25596 after030701e> 100 MSE1.303592e-02
25597 after030629e> 100 MSE1.311778e-02; alpha=0.02*(1.-GlobalTime/GlobalTimeMax);//
25598 after030629e> 100 MSE1.354559e-02
25599 before030629e> 100 MSE1.335028e-02
25600
25601 ●時系列
25602 can2                        #0:timeseries,1:chaos
25603 1                           #channels
25604 0                           #training file
25605 ./data/a.dat                #number of training data get_data_parms in my_function.c
25606 2001                        #0:online, 1:batch     init_net()   in my_plinn.c
25607                             #iterations to execute
25608 100                         #display
25609 100                         #n_cells storing vectors
25610 10                          #n_compare
25611 20                          #v_thresh
25612 0.5                         #v_ratio
25613 10                          #width  window width
25614 0.2                         #show training data show_data_parms(train);
25615 sr                          #no
25616 n                           #show network params
25617 sn                          #show batch params
25618 sb                          #execute
25619 ex
25620 030704m> 100 NMSE3.788421e-03:3.119250e-01(k90N1)
```

```
25621 030704m> 100 NMSE4.016951e-03:2.835835e-01(k90N2)
25622 030704m> 100 NMSE3.751651e-03:9.901982e-01(k90N3)
25623 030704m> 100 NMSE4.031632e-03:8.618851e-01(k90N4)
25624 030704m> 100 NMSE4.291529e-03:1.910695e+00(k90N5)
25625 030704m> 100 NMSE6.118483e-03:1.561021e+00(k50N10)
25626
25627 can2                        #0:timeseries,1:chaos
25628 1                           #channels
25629 2                           #training file
25630 ./data/07train5e4.dat       #prediction file
25631 ./data/07test.dat           #0:online, 1:batch
25632 1                           #i_times # iterations to execute
25633 50                          #d_times #display
25634 100                         #n_cells #storing vectors
25635 500                         #n_compare
25636 6                           #v_thresh
25637 0.5                         #v_ratio
25638 5                           #width  #window width
25639 0.8                         #show training data
25640 sr                          #no
25641 n                           #show network params
25642 n                           #show batch params
25643 sb                          #execute
25644 sb
25645 ex                          50 MSE1.745168e-05
25646 030709e>                   SVR MSE1.928084e-05
25647 Cf.                        50 MSE3.225098e-05(width=0.9)
25648 030702m                   >50 MSE3.528878e-05
25649 030702m                   >50 MSE3.669258e-05
25650 030702m       f07 LM05 MSE4.987910e-05
25651 遂次CAN2 f07 LM05 MSE6.853463e-05  コマンドは下
25652 after030701e> 100 MSE6.853463e-05  コマンドは下
25653 --- 030701e以前の実行例 ---
25654 can2
25655 1
25656 0                           #0:timeseries,1:chaos prepare_data() in my_function.c
25657 20                          #channels
25658 ./data/mackey2200.dat       #training file
25659 2001                        #number of training data get_data_parms in my_function.c
25660 1                           #0:online, 1:batch    init_net()  in my_plinn.c
25661 1000                        #iterations to execute
25662 100                         #display
25663 100                         #n_cells storing vectors
25664 20                          #n_compare
25665 0.5                         #v_thresh
25666 10                          #v_ratio
25667 0.2                         #width  window width
25668 sr                          #show training data show_data_parms(train);
25669 n                           #no
25670 sn                          #show network params
25671 sb                          #show batch params
25672 ex                          #execute
25673 030709e>                   1000 MSE6.932338e-09:3.994570e-07
25674 030708e>                   1000 MSE1.027852e-08:5.13356e-06
25675 030707       >             1000 MSE9.272000e-09:2.553664e-06(width=0.2)
25676 after030701e>              1000 MSE7.481811e-09:9.824534e-06(width=0.3)
25677 after030701e>              1000 MSE1.320137e-08:8.406145e-07 (width=0.1)
25678 after030701e> >            1000 MSE1.009213e-08:5.891452e-07(predの MSEを摂重?width=0.2)
25679 after030629m >             1000 MSE6.783600e-09:7.154648e-06 noReinitRandom v_thresh0.5
25680 after030629m >             1000 MSE6.727869e-09:2.394590e-06 noReinitRandom v_thresh0.9***
25681 before030629m>             1000 MSE5.282576e-09:3.824018e-06 noReinitRandom v_thresh0.9
25682 --- 030701e以前の実行例 ---
25683 (1)時系列
25684 can2
25685 20                          #channels
25686 ./data/mackey-glass.dat     #training file
25687 2001                        #number of training data get_data_parms in my_function.c
25688 1                           #0:online, 1:batch    init_net()  in my_plinn.c
25689 1000                        #iterations to execute
25690 100                         #display
25691 100                         #n_cells storing vectors
25692 20                          #n_compare
25693 0.5                         #v_thresh
25694 10                          #v_ratio
25695 0.2                         #width  window width
25696 sr                          #show training data show_data_parms(train);
25697 n                           #no
25698 sn                          #show network params
25699 sb                          #show batch params
25700 ex                          #execute
25701 after030701e>              1000 MSE7.481811e-09:9.824534e-06(width=0.3)
25702 after030701e>              1000 MSE3.4818l1e-09:9.824534e-06(width=0.3)
```

```
25703 after030701e>   1000 MSE1.320137e-08:8.406145e-07 (width=0.1)
25704 after030701e >  1000 MSE1.009213e-08:5.891452e-07(predのMSEを尊重 ?width=0.2)
25705 after030629m >  1000 MSE6.783600e-09:7.154643e-06 noReinitRandom v_thresh0.5
25706 after030629m >  1000 MSE6.727869e-09:2.394590e-06 noReinitRandom v_thresh0.9***
25707 before030629m>  1000 MSE5.282576e-09:3.824018e-06 noReinitRandom v_thresh0.9
25708
25709 -- 030701e以前の実行例 --
25710 can2                          #0:timeseries,1:chaos
25711 2                             #channels
25712 ./data/07train5e4.dat         #training file
25713 ./data/07test.dat             #prediction file
25714 1                             #0:online, 1:batch
25715 100                           #i.times # iterations to execute
25716 100                           #d_times #display
25717 500                           #n_cells #storing vectors
25718 6                             #n_compare
25719 0.5                           #v_thresh
25720 10                            #v_ratio
25721 0.2                           #width  #window width
25722 sr                            #show training data
25723 n                             #no
25724 sn                            #show network params
25725 sb                            #show batch params
25726 ex                            #execute
25727 Cf.        SVR MSE1.92884e-05
25728 逐次CAN2 f07 LM05 MSE4.987910e-05
25729 after030701e> 100 MSE6.853463e-05
25730 after030629m> 100 MSE6.576219e-05 noReinitRandom v_thresh0.5 r_ratio2.0 0.02(1/t-1/T)
25731 after030629m> 100 MSE7.141649e-05 noReinitRandom v_thresh0.5 r_ratio2.0
25732 after030629m> 100 MSE6.893930e-05 noReinitRandom v_thresh0.9 r_ratio10
25733 after030629m> 100 MSE7.170729e-05 ReinitRandom v_thresh0.9
25734 after030629m> 100 MSE6.988329e-05 noReinitRandom v_thresh0.9
25735 before030629m>100 MSE6.402973e-05 noReinitRandom v_thresh0.9
25736 →→→→→→→→
25737 →07train5e4B5.dat
25738 batchCAN2 >>after030701e>  100 MSE6.878440e-04
25739 batchCAN2 >>after030701e>  500000 MSE1.060333e-03
25740 onlineCAN2>>          500000 MSE1.060333e-03
25741 f07 LM05 MSE012:1.060333e-03,1.330766e-06,4.390513e-03 MaxAbs0.38677 MeanAbs0.00761 Noise0.010 N500
25742 AV1 b5
25743 ← ← ← ← ← ←
25744 →07train5e4B4.dat
25745 batchCAN2 >>after030701e>> 100 MSE5.437833e-05
25746 onlineCAN2>> f07 LM05 MSE012:3.784548e-05,4.633074e-08,2.903709e-02MaxAbs0.05917 MeanAbs0.00204 Nois
25747 e0.010 N500 AV1 b4
25748 mysvm> 1.79312e-05
25749 030701e
25750 (1)my_function.c で
25751 n1=bidata->m[l]+(n_channels+1-.-bidata->m[i])*
25752 (1./GlobalTime-1./GlobalTimeMax);
25753 を導入
25754 030629e
25755 (1) modify_w_batchで通さげる処理を導入。
25756 (2) modify_w_batchで処理を導入。
25757 030629m
25758 (1) modify_w_batch での荷重修正を一括して行うようにした。
25759 (2) ReinitRandomのところを少しかえた。
25760 030628e
25761 (1)v_iは相対値v_i/v_maxとしてv_threshは0~1の範囲にする。
25762 (2)store_vector_batch (in my_plinm.c) のy_m の計算が間違ってた。
25763 (3)store_vector_batch (in my_plinm.c) のソート が逆だった。
25764 (4)init_batch_ivector (in my_function.c)をちょっと変えた。
25765 (5)sigma2_hatの計算方法を calc_output を変えた。
25766 (6)net->ymin,ymaxを導入 →calc_output を変えた。
25767 (6)net->xmin,xmaxを導入 →modify_w_batchを変えた。
25768 time can2
25769 1                             #0:timeseries,1:chaos
25770 2                             #channels
25771 ./data/07train5e4.dat         #training file
25772 ./data/07test.dat             #prediction file
25773 1                             #0:online, 1:batch
25774 100                           #i.times # iterations to execute
25775 100                           #d_times #display
25776 500                           #n_cells #storing vectors
25777 6                             #n_compare
25778 0.9                           #v_thresh
25779 10                            #v_ratio
25780 0.2                           #width  #window width
25781 sr                            #show training data
25782 n                             #no
```

```
25783 sn                            #show network params
25784 sb                            #show batch params
25785 ex                            #execute
25786 > 100 MSE6.402973e-05 noReinitRandom
25787
25788 time can2
25789 0                             #0:timeseries,1:chaos
25790 20                            #channels
25791 ./data/mackey-glass.dat       #training file
25792 2001                          #number of training data  get_data_parms()in my_function.c
25793 1                             #0:online, 1:batch      init_net()    in my_plinm.c
25794 1000                          #iterations to execute
25795 100                           #display
25796 100                           #n_cells storing vectors
25797 20                            #n_compare
25798 0.9                           #v_thresh
25799 10                            #v_ratio
25800 0.2                           #width  window width
25801 sr                            #show training data show_data_parms(train);
25802 n                             #no
25803 sn                            #show network params
25804 sb                            #show batch params
25805 ex                            #execute
25806 qu
25807 > 1000 MSE5.282576e-09:3.824018e-06 noReinitRandom
25808
25809 > 1000 MSE5.596191e-09:1.085559e-06
25810 > 1000 MSE5.197762e-09:1.649058e-05
25811 > 1000 MSE6.546861e-09:4.543019e-06
25812
25813 030628
25814 (1)../can2b_030628mはpretty good .
25815 (2)wの次元をn_channels にした。→../can2b_030628n 結果が違うのはなぜ????
25816 030627
25817 (1) 組み込み関数rand()を使うと、異なる計算機で異なる結果ができる可能性が
25818 あるので myrandom()も導入した。ただ Linuxなら同じ結果になるようだ。
25819 ./share/random.h の #define MYRANDOM を生かして (殺して)
25820 make clean
25821 make
25822 を行うこと。
25823
25824 030625e  (sh backup.sh ../can2b_030625e)
25825 (1) time-series
25826 time can2
25827 0                             #0:timeseries,1:chaos
25828 20                            #channels
25829 ./data/mackey-glass.dat       #training file
25830 2001                          #number of training data  get_data_parms()in my_function.c
25831 1                             #0:online, 1:batch      init_net()    in my_plinm.c
25832 1000                          #iterations to execute
25833 100                           #display
25834 100                           #n_cells storing vectors
25835 20                            #n_compare
25836 0.9                           #v_thresh
25837 10                            #v_ratio
25838 0.2                           #width  window width
25839 sr                            #show training data show_data_parms(train);
25840 n                             #no
25841 sn                            #show network params
25842 sb                            #show batch params
25843 ex                            #execute
25844 qu
25845 > 1000 MSE6.546861e-09:4.543019e-06
25846
25847 (2) function approximation
25848 time can2
25849 1                             #0:timeseries,1:chaos
25850 2                             #channels
25851 ./data/07train5e4.dat         #training file
25852 ./data/07test.dat             #prediction file
25853 1                             #0:online, 1:batch
25854 100                           #i.times # iterations to execute
25855 100                           #d_times #display
25856 500                           #n_cells #storing vectors
25857 6                             #n_compare
25858 10                            #v_thresh
25859 2                             #v_ratio
25860 0.1                           #width  #window width
25861 sr                            #show training data
25862 n                             #no
25863 sn                            #show network params
25864 sb                            #show batch params
```

```
25865 ex          #execute
25866 qu
25867 > 100 MSE3.772715e-05; funciton no.07
25868 > 100 MSE1.651665e-02: function no.02
25869 030625
25870 can2                    #0:timeseries,1:chaos
25871 1                       #channels
25872 2                       #training file
25873 ./data/02train2e3.dat   #prediction file
25874 ./data/02test.dat       #0:online,1:batch
25875 100                     #i_times # iterations to execute
25876 100                     #d_times #display
25877 500                     #n_cells #storing vectors
25878 6                       #n_compare
25879 10                      #v_thresh
25880 2                       #v_ratio
25881 0.1                     #width  #window width
25882 sr                      #show training data
25883 n                       #no
25884 sn                      #show network params
25885 sb                      #show batch params
25886 ex                      #execute
25887 > 100 MSE2.33e-02<<
25888 > 100 MSE2.35e-02 <<.v=n0.ivectors
25889 > 100 MSE2.33e-02<<.v=n_ivectors
25890 can2                    #0:timeseries,1:chaos
25891 1                       #channels
25892 2                       #training file
25893 ./data/07train5e4.dat   #prediction file
25894 ./data/07test.dat       #0:online,1:batch
25895 100                     #i_times # iterations to execute
25896 100                     #d_times #display
25897 500                     #n_cells #storing vectors
25898 6                       #n_compare
25899 10                      #v_thresh
25900 6                       #v_ratio
25901 10                      #width  #window width
25902 0                       #show training data get_data_parms()in my_function.c
25903 2                       #channels
25904 0.1                     #width  #window width
25905 sr                      #show training data
25906 n                       #no
25907 sn                      #show network params
25908 sb                      #show batch params
25909 ex                      #execute
25910 > 100 MSE6.84e-05;4.55e-01 <<n2=n1*2-n0&& use bidata->m0  myrandom
25911 > 90 MSE6.75e-05;4.55e-01<<n2=n1*2-n0&& use bidata->m0
25912 > 100 MSE6.76e-05;4.55e-01
25913 can2                    #0:timeseries,1:chaos
25914 0                       #channels
25915 20                                             prepare_data() in my_function.c
25916 ./data/mackey-glass.dat #training file
25917 2001         #number of training data  get_data_parms()in my_function.c
25918 1            #0:online,1:batch      init_net()      in my_plinn.c
25919 1000                    #iterations to execute
25920 > 1000 MSE6.21e-09;5.30e-05 <<n2=n1*2-n0&& use bidata->m0
25921 > 1000 MSE6.80e-09;2.98e-05 <<n2=n1-n0
25922 > 1000 MSE7.56e-09;2.58e-05 <<n2=n1*2-n0
25923 030624                  #display
25924 (1) new modify_w_batch  #n_cells storing vectors
25925 can2                    #n_compare
25926 0                       #v_thresh
25927 20                      #v_ratio
25928 20                      #width  window width
25929 0.2                     #show training data show_data_parms(train);
25930 sr                      #channels
25931 n                       #no
25932 sn                      #show network params
25933 sb                      #show batch params
25934 ex                      #execute
25935 > 1000 MSE6.84e-05;4.55e-01 <<n2=n1*2-n0&& use bidata->m0  myrandom
25936 can2                    #0:timeseries,1:chaos
25937 0                       #channels
25938 20                                             prepare_data() in my_function.c
25939 ./data/mackey-glass.dat #training file
25940 2001         #number of training data  get_data_parms()in my_function.c
25941 1            #0:online,1:batch      init_net()      in my_plinn.c
25942 1000                    #iterations to execute
25943 100                     #display
25944 20                      #n_cells storing vectors
25945 1000.0                  #n_compare
25946 1000.0                  #v_thresh
```

```
25947 0.2                     #width  window width
25948 sr                      #show training data show_data_parms(train);
25949 n                       #no
25950 sn                      #show network params
25951 sb                      #show batch params
25952 ex                      #execute
25953 !!>1000 MSE6.52e-09;8.71e-06
25954   <<if(GlobalTime<=2) n=(n_channels+1)+10: in my_function.c
25955
25956 !!>1000MSE5.44e-09;1.25e-05
25957   <<alphasum=0.9/(GlobalTime*50+1):if(alphasum<=e-5)alphasum=le-5;
25958   <<after modified calc_output and
25959   <<n=(n_channels+1)+50./(GlobalTime+1)://kuro: in my_function.c
25960 !!> 1000 MSE6.62e-09;8.22e-06<<< if(alphasum<=e-5)  alphasum=le-5://
25961 !!> 1000 MSE6.62e-09;8.22e-06<<< if(alphasum<=e-6)  alphasum=le-6://
25962 !!> 1000 MSE1.62e-08;8.69e-06<<< if(alphasum<=e-4)  alphasum=le-4:
25963 can2                    #0:timeseries,1:chaos
25964 0                                             prepare_data() in my_function.c
25965 20                      #channels
25966 ./data/mackey-glass.dat #training file
25967 2001         #number of training data  get_data_parms()in my_function.c
25968 1            #0:online,1:batch      init_net()      in my_plinn.c
25969 1000                    #iterations to execute
25970 100                     #display
25971 100                     #n_cells storing vectors
25972 20                      #n_compare
25973 20.0                    #v_thresh
25974 1000.0                  #v_ratio
25975 0.2                     #width  window width
25976 sr                      #show training data show_data_parms(train);
25977 n                       #no
25978 sn                      #show network params
25979 sb                      #show batch params
25980 ex                      #execute
25981 030623                  #display
25982 (1)for time series      #n_cells storing vectors
25983 can2                    #n_compare
25984 0                                             prepare_data() in my_function.c
25985 20                      #channels
25986 ./data/mackey-glass.dat #training file
25987 2001         #number of training data  get_data_parms()in my_function.c
25988 1            #0:online,1:batch      init_net()      in my_plinn.c
25989 1000                    #iterations to execute
25990 100                     #display
25991 100                     #n_cells storing vectors
25992 20                      #n_compare
25993 20.0                    #v_thresh
25994 100.0                   #v_ratio
25995 0.2                     #width  window width
25996 sr                      #show training data show_data_parms(train);
25997 n                       #no
25998 sn                      #show network params
25999 sb                      #show batch params
26000 ex                      #execute
26001 #v_ratio5.0 > 1000 MSE1.23e-08;1.15e-05 c -1 α (min 59 NG0) T_RI0.0e+00 tau_E8.0e+04
26002 #v_ratio10.0 > 1000 MSE8.28e-09;7.67e-05 c -1 α (min 81 NG0) T_RI0.0e+00 tau_E8.0e+04
26003 #can2.20030611>1000 MSE1.23e-08;1.15e-05 c-1,α (min59, NG0),T_RI0.0e+00,tau_E8.0e+04
26004 > 960 MSE6.30e-09;3.61e-06 c -1 α (min 82 NG0) T_RI0.0e+00 tau_E8.0e+04
26005
26006 (2)function approximation
26007 can2                    #0:timeseries,1:chaos
26008 1                       #channels
26009 2                       #training file
26010 ./data/07train1e4.dat   #prediction file
26011 ./data/07test.dat       #0:online,1:batch
26012 1                       #i_times # iterations to execute
26013 10                      #d_times #display
26014 100                     #n_cells #display
26015 100                     #n_cells storing vectors
26016 6                       #n_compare
26017 5                       #v_thresh
26018 1000.0                  #v_ratio
26019 0.1                     #width  #window width
26020 sr                      #show training data
26021 n                       #no
26022 sn                      #show network params
26023 sb                      #show batch params
26024 ex                      #execute
26025 can2                    #0:timeseries,1:chaos
26026 1                       #channels
26027 1                       #channels
26028 2
```

```
26029  ./data/02train2e3.dat    #training file
26030  ./data/02test.dat        #prediction file
26031  1                        #0:online, 1:batch
26032  1                        #i_times # iterations to execute
26033  100                      #d_times #display
26034  4                        #n_cells #storing vectors
26035  6                        #n_compare
26036  5                        #v_thresh
26037  2.0                      #v_ratio
26038  0.8                      #width  #window width
26039  sr                       #show training data
26040  n                        #no
26041  sn                       #show network params
26042  sb                       #show batch params
26043  ex                       #execute
26044
26045  030622
26046  can2                     #0:timeseries,1:chaos
26047  1                        #channels
26048  2                        #training file
26049  ./data/07trainle4.dat    #prediction file
26050  ./data/07test.dat        #0:online, 1:batch
26051  1                        #i_times # iterations to execute
26052  10                       #d_times #display
26053  100                      #n_cells #storing vectors
26054  100                      #n_compare
26055  6                        #v_thresh
26056  5                        #v_ratio
26057  1000.0                     #width  #window width
26058  0.1                      #show training data
26059  sr
26060  n                        #no
26061  sn                       #show network params
26062  sb                       #show batch params
26063  ex                       #execute
26064
26065  can2                     #0:timeseries,1:chaos
26066  1                        #channels
26067  2                        #training file
26068  ./data/02train2e3.dat    #prediction file
26069  ./data/02test.dat        #0:online, 1:batch
26070  1                        #i_times # iterations to execute
26071  50                       #d_times #display
26072  100                      #n_cells #storing vectors
26073  4                        #n_compare
26074  5                        #v_thresh
26075  2.0                      #v_ratio
26076  0.8                      #width  #window width
26077  sr                       #show training data
26078  n                        #no
26079  sn                       #show network params
26080  sb                       #show batch params
26081  ex                       #execute
26082
26083
26084  030620
26085  (2)for function approximation
26086  can2                     #0:timeseries,1:chaos
26087  1                        #channels
26088  2                        #training file
26089  ./data/07train2e3.dat    #prediction file
26090  ./data/07test.dat        #0:online, 1:batch
26091  1                        #i_times # iterations to execute
26092  50                       #d_times #display
26093  100                      #n_cells #storing vectors
26094  100                      #n_compare
26095  6                        #v_thresh
26096  5                        #v_ratio
26097  2.0                      #width  #window width
26098  0.8                      #show training data
26099  sr
26100  n                        #no
26101  sn                       #show network params
26102  sb                       #show batch params
26103  ex                       #execute
26104
26105  (1)for time series                          prepare_data() in my_function.c
26106  can2                     #0:timeseries,1:chaos
26107  0                        #channels
26108  20                       #channels
26109  ./data/mackey-glass.dat  #training file      get_data_parms()in my_function.c
26110  2001                     #number of training data
```

```
26111  1        #0:online, 1:batch      init_net()                 in my_plinn.c
26112  1000     #iterations to execute
26113  100      #display
26114  100      #n_cells storing vectors
26115  20       #n_compare
26116  20.0     #v_thresh
26117  5.0      #v_ratio
26118  0.2      #width  window width
26119  sr       #show training data show_data_parms(train);         in my_function
26120  n        #no
26121  sn       #show network params
26122  sb       #show batch params
26123  ex       #execute
26124
26125  --- test_batch.dat
26126  #(1) get_function_id(&fid, fname);
26127.c
26127  1000                              # fid
26128  ./chaos/mackey-glass.dat   # data file name
26129  #(2) init_time_data(fid, fname);                             in my_function
26130.c for chaos?
26130  #(3) get_data_parms(&n_channels, &train_steps, &pred_steps, total_steps);   in my_function
26131.c
26131  2001   #n_train
26132  20     #n_channels
26133  #(4) train =init_data(tdata(tdata->x, TRAIN, fid, n_channels, train_steps, total_steps);   in my_function.
26134.c
26134  #(5) test  =init_data(tdata->x, TEST, fid, n_channels, train_steps, total_steps);          in my_function.
26135  c
26135  #(6) pred  =init_data(tdata->x, PRED, fid, n_channels, train_steps,total_steps);           in my_function.
26136  c
26136  #(7) remove_time_data(tdata);                                in my_function
26137.c
26137  #(8) net = init_net(&mode, n_channels);                      in my_plinn.c
26138  1        #Learning Mode 0:online,1:batch
26139  1009     #Iteration Times?
26140  100      #Display Times In Learning?
26141  100      #Number Of Storing Vectors?
26142  20       #Number Of Compare Cells?
26143  20.0     #Value Threshold?
26144  5.0      #Value Ratio?
26145  0.2      #Window Width?
26146  #(9) show_data_parms(train);                                 in my_function
26147.c
26147  sr
26148  n
26149  #(10) show_net_parms(net);                                   in my_plinn.c
26150  sn
26151  #(11) show_batch_data_parms(bdata);                          in none
26152  sb
26153  #(12) exec_sim(net, train, aprx, test, pred);                in sim.c
26154  ex
26155  qu
26156
26157
26158  ------------
26159  Subject: Re: needs data
26160  From: Takamasa UENO <ueno@terasu.cntl.kyutech.ac.jp>
26161  To: S.Kurogi <kuro@cntl.kyutech.ac.jp>
26162  Cc: sawa@terasu.cntl.kyutech.ac.jp
26163  Date: Wed, 18 Jun 2003 15:35:06 +0900
26164  X-Mailer: Sylpheed version 0.8.11 (GTK+ 1.2.10; i386-debian-linux-gnu)
26165  Organization: Kyushu Inst. of Tech.
26166
26167  上野です。
26168
26169  On Tue, 17 Jun 2003 16:33:28 +0900
26170  S.Kurogi <kuro@cntl.kyutech.ac.jp> wrote:
26171
26172  > 沢さんと上野君に以下のデータをお願いします。
26173  >
26174           SKIP,,,
26175
26176  > （２）上野君
26177  > 前からお願いしてますが、batchのCAN2のprogram：
26178  > （ソースを使用例だけでいいです。readmeは特に要りません）
26179
26180  > 以上、よろしくお願いします。
26181
26182
26183
26184
```

```
26185  >
26186
26187  ソースをここに用意して起きました．
26188  http://terasu.cntl.kyutech.ac.jp/~ueno/study/
26189
26190  can_20030611.tar.bz2をダウンロードし，
26191
26192  $ tar jxfvp can_20030611.tar.bz2
26193  $ cd can_20030611/
26194  $ make
26195  $ ./test_batch.sh
26196
26197  で，プログラムが実行されます．
26198
26199  各パラメータは ./test_batch.sh で調整するようになっているので
26200  そちらを変更してください．
26201  予測する時系列は今のところ，Mackey-Glassにしか対応していません．
26202
26203  また，./test_online.sh でオンライン学習での時系列予測を行いますが，
26204  こちらの方はあまりソースをいじっておらず，
26205  まだ未完成ですのでご了承ください．
26206
26207  ソース自体もまだやっつけ仕事で書いていますので
26208  読みにくいと思いますが，よろしくお願いいたします．
26209
26210
26211  ------------------------------------------------------------
26212  上野貴雅　(Takamasa UENO)
26213  九州工業大学 大学院工学研究科 機械知能工学専攻
26214  修士課程2年 制御分野・黒木研究室
26215  E-Mail：ueno@terasu.cntl.kyutech.ac.jp
26216  ------------------------------------------------------------
26217  scp -r * kuro@terasu.cntl.kyutech.ac.jp:/home/kuro/public_html/sotu/2004/ueno/can2b
26218  scp can2b.tgz kuro@terasu.cntl.kyutech.ac.jp:/home/kuro/public_html/sotu/2004/ueno/
```