INTRODUCTION TO DIGITAL SPEECH PROCESSING

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Assignment No. - 01
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MATLAB CODE:

```
[y,Fs] = audioread('anshul.wav');
A = y;
p = 2*((Fs/2)/1000)+2+2; % Order of LPC analysis
Fr = 100; % Frame rate
T_time = 2; %Total time
Wt = 20/1000; %Window time duration
F = Fr*T time; %Number of windows
Ovrlap_rat = F*Wt/T_time; % Overlap ratio=(No of windows*Window time
duration/Total time)
N = Fs*Wt; % Samples per window
alphas = zeros(p+1,F);
Corref = zeros(p+1,F);
G = zeros(F);
disp("OUTPUT STARTS HERE")
disp("Total number of available Windows :- "+int2str(F-1));
disp("Order of LPC analysis required :- "+int2str(p));
disp("Samples per window :- "+int2str(N));
disp("Overlap percentage between consecutive windows :-
"+num2str(100/Ovrlap_rat)+"%");
disp(' ');
for k = 1:F-1 %For all windows
 q = (k-1)*(N/Ovrlap_rat)+(1:N);
 frame = A(q);
 corr = xcorr(frame); %Cross-correlation
 r = corr(N:N+p)/N; %Normalized correlation coefficients
 R = toeplitz(r(1:p));
 c = r(2:p+1);
 a = [1; -R\c]; %LPC coefficient matrix
 disp("LPC coefficients for this window :- "+int2str(k));
 disp(a);
 alphas(:,k) = a;
 Error_MS = r(1);
 for t = 2:p+1
 Error MS = Error MS - a(t)*r(t); %Prediction error
 End
```

```
G(k) = sqrt(Error_MS); %Gain
disp("Normalised Gain for this window is " + num2str(G(k)));
end
mean_coeff = mean(alphas,2);
standard_deviation_coeff = std(alphas,0,2);
r = 1:p+1;
plot(r,mean_coeff(1:p+1));
axis([1 p+1 -2 2]);
title("Mean corresponding to each coefficient");
xlabel("Sample number(time)");
ylabel("Mean");
snapnow;
disp(mean_coeff);
plot(r,standard_deviation_coeff(1:p+1));
axis([1 p+1 0 1]);
title("Standard Deviation corresponding to each coefficient");
xlabel("Sample number(time)");
ylabel("Standard Deviation");
snapnow;
disp(standard_deviation_coeff);
OUTPUT STARTS HERE
Total number of available Windows :- 199
Order of LPC analysis required :- 20
Samples per window :- 320
Overlap percentage between consecutive windows :- 50%
LPC coefficients for this window :- 1
    1.0000
   -1.8443
    1.3067
   -0.5351
   0.1837
   -0.0985
   0.1179
   -0.0702
   0.0526
   -0.0336
   -0.0164
   0.1614
   -0.1759
   -0.0276
```

```
0.0143
    0.0537
   -0.0770
   -0.0365
    0.0639
    0.0230
 Normalised Gain for this window is 0.0085142
LPC coefficients for this window :- 2
    1.0000
   -1.7157
    1.0232
   -0.3110
    0.2411
   -0.2792
   0.1521
   -0.0345
    0.0216
    0.0677
    0.0265
   -0.0939
    0.0216
    0.0573
   -0.2726
    0.2677
    0.1370
   -0.2503
    0.0478
    0.0199
    0.0319
 Normalised Gain for this window is 0.0076647
LPC coefficients for this window :- 3
    1.0000
   -1.6489
   0.9140
   -0.4154
    0.5757
   -0.7185
    0.4541
   -0.2637
    0.2679
   -0.1202
```

0.0602

```
0.0064
    0.0561
   -0.1649
    0.2227
   -0.3126
    0.1704
    0.2460
   -0.3127
    0.0926
   -0.0124
   -0.0130
 Normalised Gain for this window is 0.0092919
LPC coefficients for this window :- 4
    1.0000
   -1.3472
    0.2659
   -0.0423
    0.3858
   -0.3007
   0.1235
   -0.0700
    0.1275
   -0.1561
    0.0078
    0.1634
   -0.2765
    0.1506
   -0.0474
    0.0019
    0.1368
   -0.2270
    0.1924
   -0.0824
    0.0107
 Normalised Gain for this window is 0.01274
LPC coefficients for this window :- 5
    1.0000
   -1.4457
    0.4291
   -0.2810
    0.6408
```

-0.3889

```
0.1507
   -0.1161
    0.1910
   -0.0974
   -0.1049
   0.1067
   -0.3071
    0.2669
   -0.0613
   -0.0354
    0.1327
   -0.1861
    0.2530
   -0.2776
    0.1468
 Normalised Gain for this window is 0.015704
LPC coefficients for this window :- 6
    1.0000
   -1.5222
    0.4089
    0.0206
    0.4372
   -0.3766
    0.1340
   -0.0372
   0.1515
   -0.2157
   -0.0970
   0.1239
   -0.1196
    0.1922
   -0.0699
   -0.0923
    0.1905
   -0.2002
    0.0791
   -0.1309
    0.1461
 Normalised Gain for this window is 0.014528
LPC coefficients for this window :- 7
```

1.0000 -1.6052

- 0.4745
- 0.0744
- 0.3556
- -0.3189
- 0.1766
- -0.0650
- -0.0964
- -0.0308
- -0.0049
- 0.2275
- -0.2351
- 0.1139
- -0.0406
- -0.0738
- 0.2021
- -0.1555
- 0.0742
- _____
- -0.1267
- 0.1050

Normalised Gain for this window is 0.013157

LPC coefficients for this window :- 8

- 1.0000
- -2.0874
 - 1.6345
- -1.0279
- 1.1897
- -1.4297
- 1.3953
- -0.9968
- 0.6648
- -0.7872
- 0.7100
- -0.1756
- -0.1687
- 0.0982
- 0.0037
- 0.0513
- -0.0916
- -0.0121
- 0.1652
- -0.2177
- 0.1157

```
Normalised Gain for this window is 0.013745
LPC coefficients for this window :- 9
    1.0000
   -1.4971
    0.4384
   -0.0019
    0.1185
   -0.0095
    0.0625
    0.0145
   -0.0998
   -0.0304
    0.0414
    0.0251
   -0.0405
   -0.0315
    0.0006
    0.0969
    0.0005
   -0.0900
    0.0613
   -0.0856
    0.0814
 Normalised Gain for this window is 0.014059
LPC coefficients for this window :- 10
    1.0000
   -1.6596
    0.6727
   -0.0234
    0.0789
    0.0213
   -0.0157
    0.0054
   -0.0629
   -0.0993
    0.0674
    0.0253
    0.0140
    0.0637
   -0.0757
   -0.0058
   -0.0166
```

-0.0332

```
0.0866
-0.0321
```

0.0016

Normalised Gain for this window is 0.021201 LPC coefficients for this window :- 11

- 1.0000
- -1.5389
- 0.5325
- 0.0032
- 0.1203
- -0.0328
- 0.0341
- -0.0949
- -0.0386
- ____
- 0.1054
- -0.1604
- -0.0046
- 0.1403
- -0.0657
- 0.0455
- -0.0198
- -0.0128
- 0.0090
- -0.0843
- 0.0810
- -0.0102

Normalised Gain for this window is 0.021171 LPC coefficients for this window :- 12

- 1.0000
- -1.4533
- 0.4374
- 0.0384
- 0.2589
- -0.1891
- -0.0754
- -0.0002
- -0.0295
- 0.1326
- -0.1477
- 0.0199
- 0.1033
- -0.2054

```
0.0736
    0.1791
   -0.1021
   -0.0300
   -0.0451
   0.0543
   -0.0026
 Normalised Gain for this window is 0.012539
LPC coefficients for this window :- 13
    1.0000
   -1.7676
    0.9481
   -0.1309
    0.2551
   -0.2886
   0.0029
   -0.1605
    0.2462
    0.1160
   -0.3797
    0.1509
    0.0311
   -0.1623
    0.2112
    0.0529
   -0.1674
    0.0506
   -0.0920
    0.1272
   -0.0241
 Normalised Gain for this window is 0.011057
LPC coefficients for this window :- 14
    1.0000
   -2.0694
    1.5182
   -0.4700
    0.2231
   -0.1951
    0.0255
   -0.2430
    0.4733
```

-0.1609

```
-0.3161
    0.4097
   -0.2571
   -0.0712
   0.2619
   -0.1342
    0.0658
   -0.1224
   -0.0344
   0.1297
   -0.0137
 Normalised Gain for this window is 0.01395
LPC coefficients for this window :- 15
    1.0000
   -1.9634
    1.1678
   -0.0348
   -0.0404
   -0.1301
   0.0656
   -0.1827
    0.2400
    0.0295
   -0.2019
    0.0851
   0.0037
   -0.0319
   -0.0232
   -0.0157
    0.0545
    0.0379
   -0.1104
   -0.0052
    0.0815
 Normalised Gain for this window is 0.016143
LPC coefficients for this window :- 16
    1.0000
   -1.8742
    0.9424
    0.0171
```

0.0810 -0.0930

```
-0.0760
    0.0292
    0.1262
   -0.0349
   -0.0704
   0.0532
   -0.0460
   -0.0331
   0.0237
   -0.0715
    0.1532
   -0.1164
    0.0861
   -0.0469
 Normalised Gain for this window is 0.024897
LPC coefficients for this window :- 17
    1.0000
   -1.6380
    0.5844
    0.1123
    0.0808
   -0.0414
    0.0420
   -0.0468
   -0.1010
   0.1159
   -0.0045
   -0.0249
    0.0435
   -0.0821
    0.0525
   -0.0355
   -0.0671
    0.0741
   -0.0303
    0.0805
   -0.0582
 Normalised Gain for this window is 0.029631
LPC coefficients for this window :- 18
```

-0.0123

1.0000 -1.8018

- 0.7923
- 0.1041
- 0.0843
- -0.1428
- 0.0966
- -0.0189
- -0.1652
- 0.1303
- 0.0083
- -0.0067
- 0.0338
- -0.1650
- 0.0998
- 0.0858
- -0.1364
- 0.1120
- -0.0962
- -0.0106
- 0.0586

Normalised Gain for this window is 0.030826 LPC coefficients for this window :- 19

- 1.0000
- -1.5544
- 0.4165
- 0.2084
- 0.0827
- -0.0473
- 0.0407
- -0.0422
- -0.0194
- 0.0508
- -0.0576
- -0.0024
- -0.0117 0.0064
- 0.0803
- -0.0297
- -0.0323
- -0.0025
- -0.0388
- 0.0070
- 0.0480

```
Normalised Gain for this window is 0.029126
LPC coefficients for this window :- 20
    1.0000
   -1.7032
    0.6628
    0.1639
    0.0425
   -0.0890
   -0.0168
   0.0058
   -0.0113
    0.0928
   -0.0368
   -0.0955
    0.0811
    0.0495
   -0.0405
   -0.0329
   -0.0190
    0.0346
    0.0148
   -0.0734
    0.0579
 Normalised Gain for this window is 0.022408
LPC coefficients for this window :- 21
    1.0000
   -1.7449
    0.7929
    0.0573
    0.0279
   -0.0279
   -0.0546
   -0.0112
    0.1289
    0.0083
   -0.1438
    0.0020
    0.1155
    0.0420
   -0.0564
   -0.0759
    0.0037
```

0.0280

```
0.0526
```

- -0.0409
- -0.0050

Normalised Gain for this window is 0.020296 LPC coefficients for this window :- 22

- 1.0000
- -1.5414
- 0.5234
- 0.0401
- 0.1380
- -0.0244
- -0.0704
- -0.0043
- 0.0785
- 0.0716
- -0.1236 0.0284
- 0.0228
- -0.0781
- 0.0077
- 0.0089
- 0.0296
- -0.0345
- 0.06180.0089
- -0.0985

Normalised Gain for this window is 0.021511 LPC coefficients for this window :- 23

- 1.0000
- -1.8818
 - 1.1169
- -0.2906
- 0.1923
- -0.0339
- -0.1603
- 0.1660
- 0.0123
- -0.0384
- -0.0083
- 0.0217
- -0.0168
- -0.0562

```
-0.0369
    0.0313
    0.1198
   -0.1290
    0.0608
   -0.0392
   -0.0033
 Normalised Gain for this window is 0.02306
LPC coefficients for this window :- 24
    1.0000
   -1.5440
    0.4908
    0.0510
    0.0620
    0.0345
   -0.0244
    0.0228
   -0.0203
   -0.0301
   0.0756
   -0.0716
   -0.0164
    0.0448
   -0.0688
    0.0485
    0.0334
   -0.0886
   -0.0034
   -0.0066
    0.0525
 Normalised Gain for this window is 0.022627
LPC coefficients for this window :- 25
    1.0000
   -1.6216
    0.6558
   -0.0609
    0.0761
    0.0243
   -0.0009
   -0.0237
   -0.0568
```

0.0635

```
-0.0220
    0.0341
    0.0552
   -0.1389
   -0.0005
   0.0155
   -0.0377
    0.0726
   -0.0086
   -0.0354
    0.0507
 Normalised Gain for this window is 0.017652
LPC coefficients for this window :- 26
    1.0000
   -1.3543
    0.3505
    0.0618
    0.0247
   -0.0602
   -0.0112
    0.0254
    0.0460
   -0.0064
   -0.0754
    0.0507
    0.0179
   -0.0916
    0.0306
    0.0041
   -0.0561
    0.0479
    0.0079
    0.0083
    0.0315
 Normalised Gain for this window is 0.01341
LPC coefficients for this window :- 27
    1.0000
   -1.4438
    0.4956
   -0.0391
```

-0.0091 0.0395

```
-0.0407
    0.0734
   -0.0035
   -0.0723
    0.0157
    0.0782
   -0.0221
   -0.0945
    0.1121
   -0.0167
   -0.1059
    0.0282
   -0.0076
   -0.0353
    0.0978
 Normalised Gain for this window is 0.011527
LPC coefficients for this window :- 28
    1.0000
   -1.5033
    0.5267
   -0.0200
    0.1120
    0.0172
   -0.0008
   -0.1460
    0.0096
    0.0340
    0.0046
    0.0919
   -0.0815
   -0.0879
    0.1486
    0.0105
   -0.0743
   -0.0255
    0.0449
    0.0548
   -0.0627
 Normalised Gain for this window is 0.0086797
LPC coefficients for this window :- 29
```

1.0000 -2.0277

- 1.6791
- -1.1146
- 1.0375
- -0.7992
- 0.4972
- -0.3031
- -0.1325
- 0.3366
- -0.0644
- -0.0515
- 0.0348
- -0.2993
- 0.3995
- -0.1176
- -0.0082
- ----
- -0.0045
- -0.0774
- 0.1478
- -0.1009

Normalised Gain for this window is 0.0083332

LPC coefficients for this window :- 30

- 1.0000
- -1.5488
- 0.6668
- -0.0722
- 0.1548
- -0.1128
- 0.1166
- -0.0255
- -0.2744
- 0.2001
- 0.0964
- -0.1476
- 0.0266
- -0.0117
- -0.0097
- -0.0203
- 0.0635
- 0.0325
- -0.0461
- 0.0514
- -0.0929

```
Normalised Gain for this window is 0.0088306
LPC coefficients for this window :- 31
    1.0000
   -1.9169
    1.5859
   -1.1235
    1.0172
   -0.7787
   0.5653
   -0.1835
   -0.3925
   0.5496
   -0.2982
   0.0384
   -0.0106
   -0.0218
   0.0897
   -0.1403
   0.1604
   -0.1159
   0.0205
   0.1164
   -0.1216
 Normalised Gain for this window is 0.0088882
LPC coefficients for this window :- 32
    1.0000
   -1.9220
    1.5298
   -1.0289
   0.9831
   -0.8124
   0.6478
   -0.5566
   0.2145
   0.1114
   -0.1645
   -0.0689
   0.1099
   0.0425
   -0.1444
   0.2576
   -0.3147
```

0.1337

```
0.0001
```

- 0.1795
- -0.1706

Normalised Gain for this window is 0.0098366 LPC coefficients for this window :- 33

- 1.0000
- -1.5552
- 0.6398
- -0.0006
- 0.0921
- -0.0146
- -0.0786
- -0.1237
- 0.1145
- 0.0365
- _____
- -0.1464 -0.0536
- 0.0815
- 0.0689
- -0.0984
- 0.0318
- -0.0055
- -0.0629
- 0.0809
- 0.1095
- -0.0904

Normalised Gain for this window is 0.013144 LPC coefficients for this window :- 34

- 1.0000
- -2.0172
 - 1.5821
- -0.8348
- 0.6287
- -0.3990
- 0.1806
- -0.3981
- 0.6050
- -0.5259
- 0.1632
- 0.0240
- -0.1450
- 0.3226

```
-0.3545
    0.2848
   -0.3613
    0.4108
   -0.2887
    0.2067
   -0.0762
 Normalised Gain for this window is 0.017235
LPC coefficients for this window :- 35
    1.0000
   -1.5391
    0.4741
    0.1358
    0.0710
   -0.0952
   -0.0856
    0.0219
    0.0959
   -0.1109
   -0.0085
    0.0826
   -0.0771
    0.0545
    0.0642
   -0.0459
   -0.0870
   0.0492
    0.0372
   -0.0130
   -0.0103
 Normalised Gain for this window is 0.017712
LPC coefficients for this window :- 36
    1.0000
   -2.0236
    1.3833
   -0.4018
    0.1554
   -0.1107
   -0.0361
    0.0608
```

0.0188-0.0392

```
0.0304
   -0.0584
   -0.0182
    0.1121
   -0.0188
    0.0019
   -0.1654
    0.1094
    0.1344
   -0.2346
    0.1171
 Normalised Gain for this window is 0.015417
LPC coefficients for this window :- 37
    1.0000
   -1.9727
    1.2642
   -0.3535
    0.3520
   -0.4985
   0.3559
   -0.0846
   -0.1113
   0.2006
   -0.1520
   -0.0097
   -0.0655
   0.2001
   -0.1720
    0.0264
    0.1034
   -0.2255
    0.4595
   -0.6104
    0.3154
 Normalised Gain for this window is 0.014024
LPC coefficients for this window :- 38
    1.0000
   -1.5906
    0.4769
    0.1262
```

0.1671-0.1115

```
-0.0204
    0.0228
   -0.0288
    0.0629
   -0.0023
   -0.1685
    0.0392
    0.1651
   -0.1263
    0.0094
    0.0641
   -0.0041
    0.0647
   -0.3163
    0.2370
 Normalised Gain for this window is 0.015086
LPC coefficients for this window :- 39
    1.0000
   -1.4324
    0.3207
    0.0900
    0.0678
    0.0297
   -0.0031
   -0.0057
   -0.0417
   0.0135
    0.0159
   -0.0560
   -0.0004
    0.0573
    0.0328
   -0.0244
    0.0115
    0.0417
   -0.0704
   -0.0281
    0.0577
```

Normalised Gain for this window is 0.023389

LPC coefficients for this window :- 40

1.0000 -1.5980

- 0.5105
- 0.0750
- 0.1128
- 0.0287
- 0.0417
- -0.1509
- -0.1411
- 0.1796
- -0.0007
- -0.0810
- 0.0816
- -0.0033
- 0.0331
- 0.0248
- -0.1476
- -0.0106
- 0.1237
- 0.0979
- -0.0996

Normalised Gain for this window is 0.026401 LPC coefficients for this window :- 41

- 1.0000
- -1.4307
- 0.3818
- 0.0733
- 0.1038
- 0.0396
- 0.0170
- -0.0706
- -0.1203
- 0.0092
- 0.0770
- 0.0126
- -0.0059
- -0.0196
- 0.0220
- 0.0577
- -0.1064
- -0.0619
- 0.1016
- 0.1008
- -0.0328

```
Normalised Gain for this window is 0.020678
LPC coefficients for this window :- 42
    1.0000
   -1.8216
    0.9601
   -0.1280
    0.2712
   -0.2323
    0.0428
   -0.1340
   -0.0399
    0.2176
    0.0807
   -0.2060
   -0.0461
   -0.0511
   0.2642
   -0.0386
   -0.0924
   -0.0742
   -0.1559
    0.4431
   -0.1797
 Normalised Gain for this window is 0.015518
LPC coefficients for this window :- 43
    1.0000
   -2.3983
    2.3583
   -1.7577
    1.9940
   -2.3205
    2.1696
   -2.1094
    2.0428
   -1.7207
    1.7777
   -2.0825
    1.9906
   -1.7913
    1.6845
   -1.3803
    1.2269
   -1.3575
```

```
0.9295
```

- -0.1787
- -0.0312

Normalised Gain for this window is 0.019339 LPC coefficients for this window :- 44

- 1.0000
- -2.1216
- 1.3854
- -0.3264
- 0.6183
- -0.9258
- 0.4256
- -0.1016 0.1752
- 0.0576
- -0.1766
- 0.1700
- -0.1878
- 0.3350
- -0.0689
- -0.1158
- 0.0603
- 0.2445
- -0.5003
- 0.14140.2526
- -0.1198

Normalised Gain for this window is 0.025154 LPC coefficients for this window :- 45

- 1.0000
- -1.7975
- 0.8504
- 0.0176
- 0.1126
- -0.2076
- -0.0039
- 0.1663
- -0.0277
- -0.0102
- -0.0431
- -0.1082
- 0.1503
- 0.0296

```
-0.0619
-0.0086
```

0.0344

-0.1051

-0.0071

0.1572

-0.0517

Normalised Gain for this window is 0.024929 LPC coefficients for this window :- 46

1.0000

-2.3129

1.8436

-0.4960

0.3573

-0.8612

0.6161

-0.0472

0.1324

-0.2654

-0.0238

0.0836

0.1066

-0.1330

0.1910

-0.2208

-0.0432

0.2029

-0.0376

-0.0907

0.0600

Normalised Gain for this window is 0.021109 LPC coefficients for this window :- 47

1.0000

-1.7924

0.9247

0.0379

-0.0109

-0.1602

-0.0048

0.1943

-0.0253

-0.0463

```
-0.0515
   -0.0046
    0.0351
    0.0268
    0.0755
   -0.1591
   -0.0445
    0.1459
   -0.0641
    0.0596
   -0.0342
 Normalised Gain for this window is 0.016928
LPC coefficients for this window :- 48
    1.0000
   -1.8250
    1.0046
    0.0258
   -0.0842
   -0.1633
    0.1344
    0.0141
    0.0600
    0.0172
   -0.0707
   -0.0898
   0.0806
    0.0814
```

Normalised Gain for this window is 0.014494 LPC coefficients for this window :- 49

1.0000

-0.0301 -0.1330 -0.0703 0.2578 -0.1546 0.1012 -0.0754

- -2.5742
- 3.0813
- -2.4806
- 1.9604
- -2.1010

```
2.5329
   -2.6679
    2.4301
   -1.9741
    1.7376
   -1.7687
    1.7345
   -1.4364
    0.9593
   -0.6113
    0.4278
   -0.3774
    0.2682
   -0.0593
   -0.0373
 Normalised Gain for this window is 0.013243
LPC coefficients for this window :- 50
    1.0000
   -1.6665
    0.7587
    0.0454
    0.0415
   -0.1067
    0.0075
   -0.0261
   -0.0248
   0.1085
    0.0246
   -0.0662
   -0.0000
   -0.0716
   -0.0482
   0.1419
   -0.0907
    0.0496
   -0.0314
   -0.0360
    0.0173
```

Normalised Gain for this window is 0.014413 LPC coefficients for this window :- 51 1.0000

-2.0171

- 1.4050
- -0.4447
- 0.3374
- -0.2279
- -0.0065
- 0.0079
- -0.1524
- 0.1106
- 0.2713
- -0.1910
- -0.1015
- -0.1759
- 0.1295
- 0.3534
- -0.3401
- 0.0819
- -0.0582
- 0.0099
- 0.0213

Normalised Gain for this window is 0.015298 LPC coefficients for this window :- 52

- 1.0000
- -1.6837
- 0.8516
- 0.0075
- -0.0436
- -0.0015
- 0.1215
- -0.2496
- -0.0458
- 0.1905
- -0.0246
- 0.0468
- -0.1094
- -0.1758
- 0.0784
- 0.1830
- -0.0123
- -0.1648
- 0.0256
- 0.0990
- -0.0765

```
LPC coefficients for this window :- 53
    1.0000
   -1.8954
    1.2531
   -0.3057
    0.1482
   -0.2967
    0.3165
   -0.1038
   -0.2238
    0.1961
    0.0586
   -0.1204
    0.0144
   -0.1221
    0.0352
    0.3580
   -0.3726
    0.0070
    0.2198
   -0.1125
   -0.0312
 Normalised Gain for this window is 0.011358
LPC coefficients for this window :- 54
    1.0000
   -1.9321
    1.3883
   -0.4664
    0.3911
   -0.6099
   0.5849
   -0.3105
   -0.1614
   0.3801
   -0.2127
   -0.0074
    0.1023
   -0.1640
   -0.0742
   0.4249
   -0.3239
```

-0.0347

Normalised Gain for this window is 0.013096

```
0.2253
```

- -0.1465
- 0.0031

Normalised Gain for this window is 0.0089075 LPC coefficients for this window :- 55

- 1.0000
- -1.8741
- 1.1772
- -0.2223
- 0.4066
- -0.7181
- 0.6148
- -0.5488
- 0.1678
- 0.2493
- -0.3190
- 0.0725
- _ _ _ _
- 0.2127
- -0.3052
- -0.1946
- 0.6145
- -0.2451
- -0.2708
- 0.3692
- -0.2850
- 0.1617

Normalised Gain for this window is 0.0088166 LPC coefficients for this window :- 56

- 1.0000
- -1.7349
- 0.8225
- 0.0551
- 0.2399
- -0.4607
- 0.1760
- -0.1896
- 0.1226
- 0.1069
- -0.2548
- 0.1731
- -0.0080
- -0.0336

```
-0.1397
    0.2211
    0.0306
   -0.2216
    0.2203
   -0.2146
    0.1478
 Normalised Gain for this window is 0.012201
LPC coefficients for this window :- 57
    1.0000
   -1.6032
    0.6024
    0.1141
    0.1419
   -0.2520
   -0.0045
   -0.0062
   -0.0004
   -0.0202
   0.0650
    0.0664
   -0.1789
    0.1170
   -0.0465
   -0.0333
   0.1727
   -0.0918
    0.0292
   -0.1702
    0.1516
 Normalised Gain for this window is 0.012875
LPC coefficients for this window :- 58
    1.0000
   -1.7205
    0.7722
    0.0101
    0.1495
   -0.2273
```

0.0520 -0.0811 0.0218 0.1432

```
-0.1109
   -0.0483
    0.0034
    0.1533
   -0.0383
   -0.1295
    0.1066
    0.0225
    0.0285
   -0.2192
    0.1497
 Normalised Gain for this window is 0.012247
LPC coefficients for this window :- 59
    1.0000
   -1.7760
    0.9132
   -0.1421
    0.0890
   -0.0456
    0.0110
    0.0735
   -0.0163
   -0.0172
   -0.1174
   -0.0742
   0.1460
    0.1689
   -0.0871
   -0.1842
    0.0683
    0.0261
    0.0083
   -0.0263
    0.0308
 Normalised Gain for this window is 0.014283
LPC coefficients for this window :- 60
    1.0000
   -1.8799
    1.2099
```

-0.3161 0.0176 -0.0642

```
0.1714
   -0.0402
   -0.0039
    0.0675
   -0.1316
   -0.0059
    0.0485
    0.0762
   -0.0673
   -0.1121
   -0.0006
    0.0276
    0.1105
   -0.0041
   -0.0563
 Normalised Gain for this window is 0.016127
LPC coefficients for this window :- 61
    1.0000
   -1.4174
    0.4826
    0.0732
   -0.0137
   -0.0294
    0.0045
    0.0695
    0.0476
   -0.0051
   -0.0302
   -0.0131
    0.0156
    0.0215
   -0.0246
   -0.0973
   -0.0418
    0.0330
    0.0738
    0.0849
   -0.0887
 Normalised Gain for this window is 0.016151
```

LPC coefficients for this window :- 62

1.0000 -1.7989

- 1.0921
- -0.2551
- 0.1187
- -0.2701
- 0.2001
- 0.0024
- 0.0001
- -0.0687
- 0.0825
- 0.0554
- -0.1693
- 0.1314
- -0.1305
- 0.0379
- -0.0114
- -0.1543
- 0.1365
- 0.1462
- -0.0976

Normalised Gain for this window is 0.01466 LPC coefficients for this window :- 63

- 1.0000
- -1.4335
- 0.4953
- 0.0358
- -0.0193
- -0.0439
- 0.0520
- -0.0490
- -0.0551
- 0.0278
- 0.0884
- 0.0518
- -0.1294
- -0.0426
- 0.0502
- -0.0008
- -0.0560
- -0.0566
- 0.0317
- 0.0678
- 0.0563

```
Normalised Gain for this window is 0.017758
LPC coefficients for this window :- 64
    1.0000
   -1.5303
    0.6040
    0.0152
   -0.0509
   -0.0291
    0.0884
   -0.0788
   -0.0357
    0.0770
    0.0176
    0.0200
   -0.0586
   -0.0383
   0.0454
   -0.0082
   -0.0789
   -0.0615
    0.0812
    0.0448
    0.0272
 Normalised Gain for this window is 0.019995
LPC coefficients for this window :- 65
    1.0000
   -1.9188
    1.2438
   -0.2962
   -0.0057
    0.0529
    0.0714
   -0.0737
   -0.0859
    0.0469
   -0.0036
   0.1230
   -0.1073
   -0.0906
    0.1789
   -0.0988
   -0.1283
```

```
0.1540
```

-0.2116

0.0969

Normalised Gain for this window is 0.017987 LPC coefficients for this window :- 66

- 1.0000
- -1.3892
- 0.3564
- 0.0979
- 0.0302
- 0.0635
- 0.0167
- -0.0340
- -0.0242
- -0.0281
- -0.0184
- -0.0106
- -0.0116
- 0.0110
- 0.0264
- 0.0457
- -0.0099
- -0.0644
- -0.0116
- 0.0218
- -0.0097 0.0127

Normalised Gain for this window is 0.015153 LPC coefficients for this window :- 67

- 1.0000
- -1.7877
- 0.9016
- -0.0558
- 0.0638
- -0.0498
- 0.0118
- -0.0059
- -0.1181
- -0.0364
- 0.1564
- 0.0381
- -0.1359
- -0.0773

```
0.1578
   -0.0531
   -0.0415
   0.2194
   -0.1990
   -0.0410
    0.0883
 Normalised Gain for this window is 0.014853
LPC coefficients for this window :- 68
    1.0000
   -1.3977
    0.3889
    0.0332
    0.0498
    0.0403
   -0.0533
    0.0090
   -0.0213
   -0.0414
   0.0571
   -0.0183
   -0.0150
   -0.0103
   -0.0192
   -0.0140
   0.0164
    0.1113
   -0.0552
   -0.1012
    0.0853
 Normalised Gain for this window is 0.015632
LPC coefficients for this window :- 69
    1.0000
   -1.9006
    1.2521
   -0.3755
    0.1299
   -0.1132
    0.0951
   -0.0901
    0.0132
```

```
0.0124
    0.0113
   -0.0737
    0.0098
    0.0095
   -0.0814
    0.1104
    0.1074
   -0.3339
    0.1944
    0.0087
 Normalised Gain for this window is 0.014067
LPC coefficients for this window :- 70
    1.0000
   -1.7232
    0.8015
    0.1295
   -0.0306
   -0.2456
   0.0915
    0.1159
   -0.0603
   -0.0017
   0.0272
   -0.0799
   -0.0596
   0.0912
    0.0724
   -0.0932
    0.0169
    0.0349
   -0.1596
    0.0969
    0.0160
 Normalised Gain for this window is 0.011114
LPC coefficients for this window :- 71
    1.0000
   -2.0476
    1.5506
   -0.6821
```

0.7278-0.8915

```
0.4072
    0.0563
    0.0273
   -0.0621
   -0.1351
    0.0756
   -0.1377
    0.2337
    0.0132
   -0.1786
   -0.0163
   0.2314
   -0.1611
   -0.0736
    0.1168
 Normalised Gain for this window is 0.010227
LPC coefficients for this window :- 72
    1.0000
   -2.0265
    1.4302
   -0.6227
    0.7630
   -0.7558
    0.1096
    0.2937
   -0.1496
    0.0941
   -0.2392
    0.1320
   -0.0326
    0.0453
    0.1120
   -0.2583
    0.0931
    0.1504
   -0.0738
   -0.1115
    0.0973
 Normalised Gain for this window is 0.012019
```

LPC coefficients for this window :- 73

1.0000 -1.9088

- 1.1491
- -0.3722
- 0.5052
- -0.4427
- -0.0628
- 0.2816
- -0.0576
- -0.1165
- 0.0339
- 0.0333
- 0.0571
- -0.1572
- 0.1193
- -0.0215
- -0.1325
- 0.3230
- -0.2010
- -0.0490
- 0.0639

Normalised Gain for this window is 0.010785 LPC coefficients for this window :- 74

- 1.0000
- -1.9673
 - 1.4784
- -1.0068
- 1.2259
- -1.1214
- 0.4900
- -0.1029
- 0.1622
- -0.2788
- 0.1062
- 0.1315
- -0.0650
- -0.1439
- 0.1666
- 0.0068
- -0.1176
- 0.2155
- -0.1640
- -0.0138 0.0319

```
Normalised Gain for this window is 0.0085071
LPC coefficients for this window :- 75
    1.0000
   -1.7342
    0.9678
   -0.5369
    0.7819
   -0.5739
    0.1321
    0.0688
   -0.1044
   -0.0529
    0.0498
    0.1522
   -0.1008
   -0.1480
    0.1501
    0.1019
   -0.2120
   0.1612
   -0.0699
   -0.0136
    0.0158
 Normalised Gain for this window is 0.0082158
LPC coefficients for this window :- 76
    1.0000
   -1.9342
    1.4107
   -0.8325
    0.7853
   -0.6026
    0.3185
   -0.0073
   -0.2395
    0.1193
   -0.0176
   0.1369
   -0.0885
   -0.0932
    0.1435
    0.0457
   -0.1528
```

```
-0.0096
```

- 0.0678
- -0.0454

Normalised Gain for this window is 0.0083384 LPC coefficients for this window :- 77

- 1.0000
- -1.3998
- 0.4043
- 0.0776
- -0.0476
- -0.0009
- 0.0298
- 0.0397
- -0.0288
- -0.0666
- 0.0404
- 0.0149
- -0.0115
- 0.0296
- 0.0183
- -0.0213
- 0.0046
- -0.0153
- -0.0394
- -0.0206
- 0.0620

Normalised Gain for this window is 0.010669 LPC coefficients for this window :- 78

- 1.0000
- -2.0472
 - 1.6442
- -0.7785
- 0.2463
- -0.0994
- 0.0597
- -0.0528
- 0.1768
- -0.2712
- 0.2993
- -0.2377
- 0.1195
- 0.0590

```
-0.1726
    0.2420
   -0.2479
    0.1867
   -0.1567
   -0.0922
    0.1687
 Normalised Gain for this window is 0.011808
LPC coefficients for this window :- 79
    1.0000
   -1.3802
    0.3471
    0.1592
   -0.0230
   -0.0606
   -0.0635
    0.0942
    0.0578
   -0.0525
   0.0229
   -0.0693
   -0.0091
    0.0793
    0.0743
   -0.0225
   -0.0730
   -0.0239
   -0.0019
   -0.0135
    0.0508
 Normalised Gain for this window is 0.0099465
LPC coefficients for this window :- 80
    1.0000
   -1.9312
    1.1706
   -0.2117
    0.0876
```

-0.0811 -0.0462 0.0338 0.2184 -0.1759

```
-0.0645
    0.0944
   -0.1402
    0.2000
   -0.0171
   -0.1286
    0.0354
   -0.0397
    0.0244
    0.1218
   -0.0931
 Normalised Gain for this window is 0.014251
LPC coefficients for this window :- 81
    1.0000
   -2.0184
    1.2844
   -0.3829
    0.3988
   -0.2146
   -0.1465
   -0.0019
   0.3759
   -0.2051
   -0.1370
   0.1695
   -0.1745
   0.1926
   -0.0879
   -0.0941
   0.1696
```

Normalised Gain for this window is 0.016504 LPC coefficients for this window :- 82

1.0000

-0.1183
-0.1293
0.3722
-0.2145

- -1.6771
- 0.7542
- -0.1014
- 0.2249
- -0.0545

```
-0.1244
    0.0202
   -0.0076
    0.1881
   -0.1811
    0.0005
    0.1152
   -0.1196
    0.0852
   -0.0763
    0.0047
   -0.0344
   -0.0649
    0.2490
   -0.1323
 Normalised Gain for this window is 0.013408
LPC coefficients for this window :- 83
    1.0000
   -1.7804
    0.8715
   -0.2785
    0.8062
   -0.8084
    0.5829
   -0.9109
    1.0203
   -0.4215
   -0.1521
    0.0975
    0.0696
    0.1379
   -0.2235
    0.0292
   -0.0101
   -0.0335
   -0.0925
    0.3288
```

Normalised Gain for this window is 0.012158 LPC coefficients for this window :- 84 1.0000

-0.1886

- -1.4624
- 0.3967
- 0.0798
- 0.2451
- -0.1408
- 0.1970
- -0.4010
- 0.2716
- -0.0305
- -0.2160
- 0.3109
- -0.1870
- 0.1071
- -0.1177
- -0.0432
- 0.2444
- -
- -0.2623 0.0020
- _____
- 0.1731
- -0.0800

Normalised Gain for this window is 0.01263 LPC coefficients for this window :- 85

- 1.0000
- -1.4242
- 0.2946
- 0.0725
- 0.2816
- -0.1219
- 0.2023
- -0.2924
- 0.1285
- -0.0388
- -0.1544
- 0.2509
- -0.1214
- 0.0784
- -0.0453
- -0.1009
- 0.1953
- -0.1591
- 0.0044
- 0.0246
- 0.0415

```
Normalised Gain for this window is 0.015241
LPC coefficients for this window :- 86
    1.0000
   -1.5570
    0.5234
    0.0653
    0.1188
   -0.1284
    0.1739
   -0.2223
    0.2106
   -0.0788
   -0.1024
    0.1132
   -0.0566
    0.0252
   -0.0335
    0.0037
    0.0361
    0.0232
   -0.1251
    0.0086
    0.0962
 Normalised Gain for this window is 0.015465
LPC coefficients for this window :- 87
    1.0000
   -1.4592
    0.4462
    0.1145
    0.0767
   -0.1172
    0.0878
   -0.0537
    0.0289
   -0.0077
    0.0061
    0.0517
   -0.0761
   -0.0455
    0.0338
    0.0393
```

-0.0208

```
-0.0195
```

- -0.0346
- -0.0193
- 0.0721

Normalised Gain for this window is 0.011854 LPC coefficients for this window :- 88

- 1.0000
- -1.8331
- 1.1089
- -0.1491
- 0.1243
- -0.3223
- 0.2098
- -0.1401
- 0.2297
- -0.1319
- -0.0011
- 0.1869
- -0.2575
- 0.0846
- 0.0852
- -0.0369
- -0.0162
- -0.0319
- 0.1185
- -0.1970
- 0.1566

Normalised Gain for this window is 0.012243 LPC coefficients for this window :- 89

- 1.0000
- -2.2092
- 2.0753
- -1.2498
- 0.8913
- -0.9185
- 0.7838
- -0.4580
- 0.1948
- 0.0184
- -0.1593
- 0.3514
- -0.4321

```
0.3664
   -0.4146
    0.4430
   -0.1141
   -0.2032
   0.2923
   -0.2852
    0.1548
 Normalised Gain for this window is 0.013993
LPC coefficients for this window :- 90
    1.0000
   -1.7384
    1.0775
   -0.2553
   -0.0245
   -0.1808
   0.2786
   -0.0211
   -0.1482
    0.1554
    0.0357
   -0.0914
    0.0156
    0.0130
   -0.1837
    0.2178
    0.0913
   -0.1757
    0.1727
   -0.1544
    0.0367
 Normalised Gain for this window is 0.011608
LPC coefficients for this window :- 91
    1.0000
   -2.1229
    1.9501
   -1.2454
    0.9051
   -0.9930
    1.0799
   -0.8260
```

```
0.1277
   -0.2675
    0.1829
   -0.0900
    0.1935
   -0.5025
    0.5330
   -0.0738
   -0.1869
    0.2162
   -0.2721
    0.1380
 Normalised Gain for this window is 0.0086821
LPC coefficients for this window :- 92
    1.0000
   -1.8453
    1.3051
   -0.5746
   0.4356
   -0.4951
    0.4791
   -0.4142
    0.0971
    0.2437
   -0.3035
    0.1549
    0.0539
   -0.0145
   -0.2214
   0.2790
   -0.0383
   -0.0278
    0.0364
   -0.2623
    0.1888
 Normalised Gain for this window is 0.0081275
LPC coefficients for this window :- 93
    1.0000
   -2.0797
    1.7656
   -0.9809
```

```
1.3534
   -1.2330
    0.6921
   -0.1755
    0.0757
   -0.1552
    0.1019
    0.2191
   -0.5202
    0.4881
   -0.1809
    0.0392
   -0.1126
    0.0327
    0.0228
 Normalised Gain for this window is 0.0081299
LPC coefficients for this window :- 94
    1.0000
   -1.5550
    0.5183
    0.1821
    0.0530
   -0.1481
    0.0149
   -0.0939
    0.0723
    0.0033
   -0.0656
    0.1239
   -0.0428
   0.0197
   -0.0668
   -0.0326
   0.1373
   -0.0791
   -0.0178
   -0.0876
    0.0833
```

Normalised Gain for this window is 0.013754 LPC coefficients for this window :- 95

1.0000

-1.2155

- -1.5939
- 0.5346
- 0.1795
- -0.0086
- -0.0599
- -0.0494
- -0.0375
- 0.1632
- -0.0579
- -0.0896
- 0.0775
- -0.0077
- 0.0005
- -0.0254
- -0.0527
- 0.0602
- 0.0584 -0.1138
- -0.1260
- 0.1590

Normalised Gain for this window is 0.021486 LPC coefficients for this window :- 96

- 1.0000
- -1.1619
- 0.0875
- 0.0737
- 0.0463
- 0.0112
- -0.0055 -0.0141
- -0.0250
- -0.0052
- 0.0097
- 0.0104
- 0.0101
- 0.0174
- 0.0157
- -0.0157
- -0.0342
- -0.0240
- -0.0313
- -0.0553
- 0.1046

```
LPC coefficients for this window :- 97
    1.0000
   -1.1201
    0.0510
    0.0518
    0.0324
    0.0004
   -0.0112
   -0.0296
   -0.0315
   -0.0223
   -0.0085
    0.0242
    0.0340
    0.0192
    0.0176
    0.0164
   -0.0012
   -0.0114
   -0.0253
   -0.0292
    0.0558
 Normalised Gain for this window is 0.17628
LPC coefficients for this window :- 98
    1.0000
   -1.1339
    0.0691
    0.0400
    0.0168
    0.0057
   -0.0154
   -0.0442
   -0.0410
   -0.0215
    0.0057
    0.0286
    0.0393
    0.0528
    0.0396
    0.0015
   -0.0012
```

Normalised Gain for this window is 0.050863

```
-0.0129
```

- -0.0431
- -0.0323
- 0.0557

Normalised Gain for this window is 0.20661 LPC coefficients for this window :- 99

- 1.0000
- -1.0731
- 0.0322
- 0.0340
- 0.0104
- -0.0034
- -0.0014
- -0.0181
- -0.0222
- -0.0128
- -0.0000
- _ _ _ _
- 0.0182
- 0.0200
- 0.0163
- 0.0156
- 0.0070
- -0.0077
- -0.0158
- -0.0176 -0.0112
- 0.0441

Normalised Gain for this window is 0.13441 LPC coefficients for this window :- 100

- 1.0000
- -1.1600
- 0.0805
- 0.0596
- 0.0506
- 0.0016
- -0.0099
- -0.0101
- -0.0461
- -0.0249
- 0.0010
- 0.0188
- 0.0325

```
-0.0013
   -0.0001
   0.0276
   -0.0041
   -0.0179
   -0.0155
   -0.0208
    0.0477
 Normalised Gain for this window is 0.10033
LPC coefficients for this window :- 101
    1.0000
   -1.1991
    0.0988
    0.0679
    0.0305
    0.0091
   -0.0180
   -0.0185
    0.0159
    0.0006
   -0.0137
    0.0006
    0.0246
    0.0014
   -0.0091
   0.0321
   -0.0091
   -0.0120
   -0.0014
   -0.0313
    0.0372
 Normalised Gain for this window is 0.083396
LPC coefficients for this window :- 102
    1.0000
   -1.2073
    0.0763
    0.0674
    0.0514
    0.0230
```

-0.0027 0.0092 -0.0179

```
0.0152
   -0.0192
   -0.0055
    0.0167
   -0.0149
    0.0340
    0.0095
   -0.0382
    0.0157
    0.0068
    0.0129
 Normalised Gain for this window is 0.083625
LPC coefficients for this window :- 103
    1.0000
   -1.1325
    0.0502
    0.0228
    0.0192
    0.0332
    0.0098
   -0.0136
    0.0135
    0.0066
   -0.0281
   -0.0280
   -0.0186
    0.0057
    0.0230
    0.0010
    0.0194
    0.0402
   -0.0025
   -0.0067
   -0.0068
 Normalised Gain for this window is 0.10205
LPC coefficients for this window :- 104
    1.0000
   -1.1591
    0.0598
    0.0702
```

-0.0249

```
0.0022
   -0.0098
   -0.0362
   -0.0300
    0.0002
    0.0032
   -0.0001
    0.0183
    0.0360
    0.0227
   -0.0032
   -0.0197
   -0.0111
   -0.0043
   -0.0025
    0.0325
 Normalised Gain for this window is 0.10457
LPC coefficients for this window :- 105
    1.0000
   -1.3241
    0.2687
    0.1206
   -0.0245
   -0.0400
    0.0538
   0.0405
   -0.0537
   -0.0533
   -0.0303
   -0.0382
    0.0103
    0.0558
    0.0285
   -0.0401
   -0.0253
    0.0322
    0.0205
   -0.0200
    0.0338
```

Normalised Gain for this window is 0.093328 LPC coefficients for this window :- 106

- -1.0951
- 0.0659
- 0.0484
- 0.0466
- 0.0496
- 0.0313
- 0.0023
- -0.0229
- -0.0291
- -0.0140
- -0.0009
- -0.0001
- 0.0025
- -0.0020
- -0.0156
- -0.0140
- 0.0093
- 0.0196
- -0.0052
- 0.0009

Normalised Gain for this window is 0.21479 LPC coefficients for this window :- 107

- 1.0000
- -1.9218
- 1.0537
- 0.1188
- -0.3516
- 0.0594
- 0.2319
- -0.1081
- -0.0926
- 0.1556
- -0.0390
- -0.2756
- 0.0709
- 0.2942
- -0.0146
- -0.1838
- 0.0206
- 0.1182
- -0.0637
- -0.0325
- -0.0065

```
Normalised Gain for this window is 0.57196
LPC coefficients for this window :- 108
    1.0000
   -1.5609
    0.6088
    0.0380
   -0.1043
    0.0927
    0.0832
   -0.0579
    0.0011
    0.0721
   -0.0513
   -0.1454
   -0.0352
   0.1382
    0.1227
   -0.0224
   -0.0470
   -0.0098
   -0.0156
   0.0258
   -0.0505
 Normalised Gain for this window is 0.69139
LPC coefficients for this window :- 109
    1.0000
   -1.4651
    0.4995
    0.0555
   -0.0596
    0.0666
    0.0318
   -0.0510
    0.0347
    0.1233
   -0.0570
   -0.2321
   -0.0403
    0.2247
    0.1403
```

-0.1056 -0.0795

```
0.0696
0.0480
-0.0208
-0.0870
Ormalised
```

Normalised Gain for this window is 0.67677 LPC coefficients for this window :- 110

- 1.0000
- -2.0577
- 1.5908
- -0.5572
- -0.1941
- 0.3882
- 0.0355
- -0.2048
- 0.0590
- _ ___
- 0.1594
- -0.1705
- -0.2228
- 0.1381
- 0.2220
- -0.0228
- -0.0934
- 0.0248
- 0.0316
- -0.1117 0.1125
- -0.0661

Normalised Gain for this window is 0.71134 LPC coefficients for this window :- 111

- 1.0000
- -1.5175
- 0.5934
- 0.0033
- -0.0961
- 0.1006
- 0.0783
- -0.0431
- 0.0234
- 0.0832
- -0.0907
- -0.1988
- -0.0003

```
0.2010
    0.1162
   -0.0699
   -0.0640
    0.0241
    0.0164
    0.0340
   -0.0823
 Normalised Gain for this window is 0.65881
LPC coefficients for this window :- 112
    1.0000
   -2.0458
    1.5544
   -0.5932
   -0.1854
    0.4192
    0.0574
   -0.1615
    0.0592
    0.0696
   -0.1702
   -0.2192
    0.1056
    0.2825
   -0.0059
   -0.1158
   0.0726
   -0.0025
   -0.1428
    0.0513
    0.0101
 Normalised Gain for this window is 0.62964
LPC coefficients for this window :- 113
    1.0000
   -1.7944
    1.0324
   -0.2137
   -0.2033
    0.2773
    0.1275
   -0.1709
```

-0.0125

```
0.1440
   -0.1158
   -0.2213
    0.0639
    0.2051
    0.0589
   -0.1120
    0.0058
    0.0794
   -0.0660
   -0.0370
   -0.0061
 Normalised Gain for this window is 0.596
LPC coefficients for this window :- 114
    1.0000
   -1.5494
    0.5740
    0.0838
   -0.0811
    0.0570
    0.0683
   -0.0723
   -0.0180
   0.1389
   -0.0321
   -0.2344
   -0.0186
    0.2428
    0.0945
   -0.1661
   -0.0640
    0.1186
    0.0611
   -0.0205
   -0.1041
 Normalised Gain for this window is 0.60101
LPC coefficients for this window :- 115
    1.0000
   -1.6305
    0.7216
   -0.0302
```

-0.1129

```
0.1059
   -0.0684
   -0.0265
    0.0715
   -0.0802
   -0.1836
    0.0124
    0.2404
    0.1246
   -0.1268
   -0.1157
    0.0557
    0.0476
    0.0228
   -0.0741
 Normalised Gain for this window is 0.62041
LPC coefficients for this window :- 116
    1.0000
   -1.4616
    0.4936
    0.0535
   -0.0356
    0.0944
    0.0225
   -0.0796
    0.0349
    0.1337
   -0.0436
   -0.2216
   -0.0459
   0.2342
    0.1204
   -0.1066
   -0.0826
    0.0488
    0.0739
    0.0245
   -0.0964
 Normalised Gain for this window is 0.57414
```

LPC coefficients for this window :- 117

1.0000

- -1.7471
- 0.9040
- -0.0973
- -0.2041
- 0.2354
- 0.1691
- -0.1526
- -0.0460
- 0.1281
- -0.0955
- -0.2189
- 0.0620
- 0.2345
- 0.0607
- -0.1047
- -0.0511
- 0.0384
- -0.0173
- 0.0199
- -0.0216

Normalised Gain for this window is 0.58339 LPC coefficients for this window :- 118

- 1.0000
- -1.6456
- 0.6733
- 0.0189
- -0.0554
- 0.1063
- 0.0430
- -0.0486
- 0.0406
- 0.0928
- -0.1152
- -0.2357
- 0.0170
- 0.2628
- 0.1270
- -0.1424
- -0.1281
- 0.0671
- 0.0765
- -0.0145
- -0.0537

```
Normalised Gain for this window is 0.55902
LPC coefficients for this window :- 119
    1.0000
   -2.6551
    3.0374
   -2.0118
   0.5692
   0.3639
   -0.2090
   -0.2443
   0.3096
   0.0357
   -0.3103
   -0.0383
   0.2396
   0.0665
   -0.0847
   -0.0635
   0.0813
   -0.0839
   0.0274
   0.0473
   -0.0402
 Normalised Gain for this window is 0.4688
LPC coefficients for this window :- 120
    1.0000
   -1.9901
    1.3414
   -0.3462
   -0.1760
   0.2955
   0.0725
   -0.1638
   0.0318
```

0.1428 -0.1727 -0.2184 0.1086 0.2178 0.0609 -0.1137 -0.0533

```
0.0255
```

-0.0264

0.0312

-0.0183

Normalised Gain for this window is 0.4662 LPC coefficients for this window :- 121

- 1.0000
- -2.1742
- 1.7091
- -0.5325
- -0.2304
- 0.3962
- -0.0127
- -0.1862
- 0.0897
- 0.1201
- -0.1554
- -0.2015
- 0.1031
-
- 0.23780.0111
-
- -0.1680 0.0200
- 0.0628
- -0.0948
- 0.0811
- -0.0466

Normalised Gain for this window is 0.46903 LPC coefficients for this window :- 122

- 1.0000
- -2.1033
- 1.5304
- -0.4784
- -0.1884
- 0.4376
- 0.0149
- -0.2370
- 0.1332
- 0.0367
- -0.1892
- -0.1473
- 0.0771

```
0.2706
    0.0693
   -0.1586
   -0.0546
    0.0287
   -0.0711
    0.0788
   -0.0212
 Normalised Gain for this window is 0.4667
LPC coefficients for this window :- 123
    1.0000
   -2.0114
    1.2535
   -0.1753
   -0.1788
    0.1911
    0.1150
   -0.1526
   -0.0023
   0.1339
   -0.1649
   -0.1922
    0.0880
    0.2463
    0.0884
   -0.1738
   -0.0878
    0.0406
    0.0311
    0.0049
   -0.0285
 Normalised Gain for this window is 0.51302
LPC coefficients for this window :- 124
    1.0000
   -2.4161
    2.1241
   -0.8013
   -0.0814
    0.3477
    0.0005
   -0.2226
```

```
0.0992
   -0.1453
   -0.1392
    0.0750
    0.2957
    0.0085
   -0.3268
    0.0932
    0.1235
   -0.1752
    0.1262
   -0.0464
 Normalised Gain for this window is 0.48676
LPC coefficients for this window :- 125
    1.0000
   -1.9506
    1.1209
   -0.1330
   -0.1553
   0.2155
    0.0947
   -0.1433
   -0.0220
   0.0741
   -0.0933
   -0.1801
    0.0777
    0.2670
    0.0477
   -0.2198
   -0.0469
   0.1015
   -0.0258
   -0.0173
    0.0020
 Normalised Gain for this window is 0.37663
LPC coefficients for this window :- 126
    1.0000
   -2.9307
    4.0598
   -4.1551
```

```
-2.3343
    1.4571
   -1.1400
    0.9594
   -0.6058
    0.1926
   -0.2272
    0.2577
   -0.0767
   0.3053
   -0.5149
    0.3406
   -0.2555
    0.2328
   -0.1084
    0.0116
 Normalised Gain for this window is 0.29586
LPC coefficients for this window :- 127
    1.0000
   -1.9480
    1.1398
   -0.2307
   -0.0047
   0.2210
   -0.0723
   -0.1899
   0.1108
    0.1577
   -0.1418
   -0.1844
    0.0355
    0.2182
    0.0926
   -0.1867
   -0.1278
    0.1051
    0.1185
   -0.1122
    0.0082
```

Normalised Gain for this window is 0.31735 LPC coefficients for this window :- 128

- -2.1961
 - 1.5524
- -0.3813
- 0.1015
- 0.0582
- -0.1400
- -0.0793
- 0.1373
- 0.0458
- -0.1207
- 0.0266
- _ ___
- -0.0696 0.1286
- 0.0929
- -0.2068
- 0.1_000
- -0.0133
- 0.0246
- 0.2213
- -0.2264
- 0.0508

Normalised Gain for this window is 0.26818 LPC coefficients for this window :- 129

- 1.0000
- -1.9351
- 1.0008
- 0.0096
- 0.0430
- -0.0392
- -0.0228
- -0.1037
- 0.0874
- 0.1195
- -0.1612
- -0.0501
- 0.0231
- 0.1183
- 0.1003
- -0.1756
- -0.1445
- 0.1178
- 0.1497
- -0.0761
- -0.0518

```
LPC coefficients for this window :- 130
    1.0000
   -1.7651
    0.7685
    0.0003
    0.0251
    0.0155
    0.1069
   -0.0732
   -0.0767
   0.1618
   -0.0992
   -0.1973
    0.0604
    0.1562
    0.0721
   -0.0939
   -0.0905
    0.0390
    0.0346
    0.0084
   -0.0420
 Normalised Gain for this window is 0.16747
LPC coefficients for this window :- 131
    1.0000
   -1.5903
    0.5145
    0.0789
   -0.0058
    0.0583
    0.0401
   -0.0244
    0.0141
    0.0584
   -0.1071
   -0.1472
    0.0382
    0.0999
    0.0634
   -0.0074
```

-0.0848

Normalised Gain for this window is 0.18742

```
-0.0395
    0.0441
    0.0469
   -0.0390
 Normalised Gain for this window is 0.14784
LPC coefficients for this window :- 132
    1.0000
   -1.6492
    0.5492
    0.1003
    0.0339
    0.0001
    0.0052
   -0.0085
    0.0222
    0.0872
   -0.1114
   -0.1887
    0.0339
    0.1733
    0.0565
   -0.0391
   -0.0794
   -0.0611
    0.0911
    0.0095
   -0.0157
 Normalised Gain for this window is 0.16181
LPC coefficients for this window :- 133
    1.0000
   -1.4780
    0.2786
    0.1823
    0.1145
   -0.0322
```

-0.0144 -0.0250 0.0169 0.0075 -0.0537 -0.0126 -0.0272

```
-0.0252
    0.0654
    0.0456
   -0.0128
    0.0000
   -0.0356
   -0.0469
    0.0656
 Normalised Gain for this window is 0.15387
LPC coefficients for this window :- 134
    1.0000
   -1.4830
    0.2854
    0.1094
    0.0699
    0.0929
    0.0262
   -0.0300
   -0.0266
   0.0074
   -0.0279
   -0.1071
   -0.0297
    0.0939
    0.0889
    0.0002
   -0.0268
   -0.0076
   -0.0235
   -0.0631
    0.0607
 Normalised Gain for this window is 0.14067
LPC coefficients for this window :- 135
    1.0000
   -1.3072
    0.1485
    0.0976
    0.0437
    0.0280
    0.0296
    0.0121
```

-0.0122

```
-0.0110
   -0.0125
   -0.0214
   -0.0233
    0.0017
    0.0313
    0.0153
    0.0098
    0.0027
   -0.0117
   -0.0159
    0.0081
 Normalised Gain for this window is 0.14685
LPC coefficients for this window :- 136
    1.0000
   -1.3768
    0.1783
    0.1155
    0.0691
    0.0570
   -0.0085
   -0.0138
    0.0045
   -0.0101
    0.0261
   -0.0374
   -0.0534
    0.0351
    0.0330
    0.0192
    0.0072
   -0.0217
   -0.0263
   -0.0673
    0.0826
 Normalised Gain for this window is 0.14135
LPC coefficients for this window :- 137
    1.0000
   -1.1924
    0.0835
    0.0726
```

```
0.0003
   -0.0030
    0.0189
    0.0102
   -0.0148
    0.0127
    0.0118
   -0.0045
    0.0140
   -0.0066
   -0.0219
   0.0032
   -0.0287
   -0.0120
    0.0417
 Normalised Gain for this window is 0.10058
LPC coefficients for this window :- 138
    1.0000
   -1.2262
    0.0997
    0.0605
    0.0354
   -0.0298
    0.0267
    0.0454
    0.0228
    0.0226
   -0.0213
   -0.0099
    0.0030
    0.0077
    0.0248
   -0.0068
    0.0173
    0.0152
   -0.0506
   -0.0371
    0.0250
 Normalised Gain for this window is 0.055551
```

LPC coefficients for this window :- 139

1.0000

-0.0037

- -1.6547
- 0.4874
- 0.1772
- -0.0179
- -0.0537
- 0.1241
- 0.0279
- -0.0176
- -0.0797
- -0.0377
- 0.0867
- -0.0017
- -0.0073
- -0.0519
- 0.0271
- 0.0839
- -0.0746
- -0.0058
- 0.0010
- -0.0006

Normalised Gain for this window is 0.044813 LPC coefficients for this window :- 140

- 1.0000
- -1.2802
- 0.0902
- 0.0677
- 0.0344
- 0.0414
- 0.0354
- 0.0313
- 0.0270 0.0064
- 0.0140
- -0.0023
- -0.0240 -0.0242
- -0.0165
- 0.0048 0.0023
- 0.0019
- 0.0139
- -0.0061
- -0.0058

```
Normalised Gain for this window is 0.064492
LPC coefficients for this window :- 141
    1.0000
   -1.3895
    0.1622
    0.0902
    0.0404
    0.0347
    0.0418
    0.0299
    0.0279
    0.0215
    0.0026
   -0.0171
   -0.0096
   -0.0125
   -0.0252
    0.0117
   0.0110
   -0.0212
   -0.0216
   -0.0240
    0.0537
 Normalised Gain for this window is 0.077109
LPC coefficients for this window :- 142
    1.0000
   -1.2248
    0.0673
    0.0637
    0.0226
    0.0100
    0.0229
    0.0135
    0.0286
    0.0278
    0.0177
    0.0219
   -0.0131
   -0.0231
   -0.0072
   -0.0047
```

-0.0054

```
-0.0137
    0.0004
   -0.0113
    0.0179
 Normalised Gain for this window is 0.058313
LPC coefficients for this window :- 143
    1.0000
   -1.3768
    0.1951
    0.1208
    0.0665
   -0.0101
   -0.0053
    0.0384
    0.0313
    0.0084
    0.0107
   -0.0196
   -0.0268
   -0.0054
   -0.0052
   0.0217
   -0.0158
   -0.0123
   0.0269
   -0.0263
    0.0019
 Normalised Gain for this window is 0.02612
LPC coefficients for this window :- 144
    1.0000
   -1.3965
    0.2115
    0.1127
    0.1025
    0.0412
    0.0070
    0.0039
   -0.0324
    0.0402
```

-0.0228 -0.0219 0.0188

```
-0.0281
    0.0212
    0.0281
   -0.0161
   -0.0124
   0.0013
   -0.0035
   -0.0021
 Normalised Gain for this window is 0.014673
LPC coefficients for this window :- 145
    1.0000
   -1.3582
    0.1910
    0.0923
    0.0614
    0.0353
    0.0026
    0.0076
   -0.0216
    0.0002
    0.0265
   -0.0092
    0.0092
    0.0284
   -0.0193
   -0.0116
   0.0196
    0.0002
   -0.0164
   -0.0336
    0.0129
 Normalised Gain for this window is 0.021012
LPC coefficients for this window :- 146
    1.0000
   -1.1475
    0.0426
    0.0083
    0.0154
    0.0439
    0.0228
    0.0126
```

```
0.0011
   -0.0090
    0.0019
    0.0107
   -0.0068
   -0.0046
   0.0066
   -0.0032
   -0.0041
   -0.0194
    0.0199
 Normalised Gain for this window is 0.038426
LPC coefficients for this window :- 147
    1.0000
   -1.0756
    0.0149
    0.0146
    0.0126
    0.0051
   -0.0001
    0.0106
    0.0164
    0.0010
    0.0066
    0.0052
   -0.0063
    0.0035
    0.0065
    0.0046
   -0.0019
   -0.0070
   -0.0086
   -0.0104
    0.0269
 Normalised Gain for this window is 0.074705
LPC coefficients for this window :- 148
    1.0000
   -1.1968
    0.0619
    0.0364
    0.0249
```

```
0.0148
    0.0049
    0.0187
    0.0115
   -0.0131
   -0.0189
    0.0026
    0.0167
   -0.0050
    0.0048
    0.0139
   -0.0107
   -0.0042
   -0.0037
    0.0215
 Normalised Gain for this window is 0.10929
LPC coefficients for this window :- 149
    1.0000
   -1.0706
    0.0150
    0.0108
    0.0132
    0.0046
   -0.0065
    0.0016
    0.0070
    0.0007
    0.0002
    0.0018
    0.0084
    0.0057
   -0.0010
   -0.0003
   -0.0035
   -0.0056
    0.0066
    0.0100
    0.0162
 Normalised Gain for this window is 0.1045
```

LPC coefficients for this window :- 150

1.0000

- -1.2589
- 0.0981
- 0.1131
- 0.0424
- -0.0295
- -0.0119
- 0.0325
- 0.0331
- 0.0079
- -0.0043
- -0.0242
- -0.0088
- -0.0019
- -0.0029
- 0.0061
- -0.0221
- -0.0227
- 0.0049
- 0.0522
- 0.0086

Normalised Gain for this window is 0.072032 LPC coefficients for this window :- 151

- 1.0000
- -1.3021
- 0.1640
- 0.0804
- 0.0228
- 0.0101
- 0.0294
- 0.0332
- 0.0144
- 0.0002
- -0.0718
- -0.0599
- 0.0369
- 0.06470.0243
- -0.0416
- -0.0504
- -0.0241
- 0.0040
- 0.0356
- 0.0434

```
Normalised Gain for this window is 0.056445
LPC coefficients for this window :- 152
    1.0000
   -1.2954
    0.1567
    0.0905
    0.0477
    0.0124
   -0.0041
    0.0092
    0.0234
    0.0202
   -0.0184
   -0.0218
   -0.0344
   -0.0202
    0.0127
    0.0050
   -0.0326
   -0.0280
    0.0202
    0.0124
    0.0589
 Normalised Gain for this window is 0.046575
LPC coefficients for this window :- 153
    1.0000
   -1.3478
    0.2179
    0.0891
    0.0541
    0.0350
    0.0361
    0.0207
    0.0024
   -0.0306
   -0.0485
   -0.0495
    0.0058
    0.0339
   -0.0041
```

-0.0114 -0.0313

```
-0.0186
    0.0450
    0.0036
    0.0139
 Normalised Gain for this window is 0.028634
LPC coefficients for this window :- 154
    1.0000
   -1.6928
    0.6238
    0.1865
   -0.0043
   -0.0654
    0.0684
    0.0959
   -0.0862
   -0.0979
   -0.0398
    0.0069
    0.0015
    0.0547
    0.1174
   -0.0713
   -0.1266
    0.0131
    0.0581
   -0.0359
    0.0072
 Normalised Gain for this window is 0.017167
LPC coefficients for this window :- 155
    1.0000
   -1.7733
    0.7405
    0.1637
   -0.0306
   -0.0451
    0.0823
    0.0245
```

-0.0811 -0.0313 -0.0941 -0.0078 0.0960

```
0.0302
    0.0398
   -0.0780
   -0.0689
    0.0814
    0.0242
   -0.1366
    0.0764
 Normalised Gain for this window is 0.0167
LPC coefficients for this window :- 156
    1.0000
   -1.7081
    0.6760
    0.1467
    0.0277
   -0.0510
    0.0416
    0.0248
   -0.0134
   -0.1186
   -0.0571
    0.0877
    0.0054
   -0.0125
    0.0577
   -0.0306
   -0.0595
    0.0232
    0.0288
   -0.0869
    0.0382
 Normalised Gain for this window is 0.013515
LPC coefficients for this window :- 157
    1.0000
   -1.8102
    0.8083
    0.0823
    0.0811
   -0.0710
   -0.0019
    0.0387
   -0.0294
```

```
0.0107
   -0.0074
    0.0505
    0.0978
   -0.0992
   -0.0607
    0.0591
    0.0500
   -0.0605
   -0.0891
    0.0895
 Normalised Gain for this window is 0.011626
LPC coefficients for this window :- 158
    1.0000
   -1.3275
    0.1226
    0.0947
    0.0820
    0.0712
    0.0542
   -0.0007
   -0.0356
   -0.0617
   -0.0443
   -0.0122
   -0.0065
    0.0340
    0.0271
   -0.0106
    0.0222
   -0.0049
   -0.0293
   -0.0347
    0.0692
 Normalised Gain for this window is 0.056759
LPC coefficients for this window :- 159
    1.0000
   -1.1652
    0.0560
    0.0557
```

-0.1063

```
0.0242
    0.0178
   -0.0084
   -0.0194
   -0.0222
   -0.0119
    0.0001
    0.0110
    0.0148
   -0.0031
   -0.0145
   -0.0103
    0.0066
    0.0139
   -0.0010
    0.0381
 Normalised Gain for this window is 0.099132
LPC coefficients for this window :- 160
    1.0000
   -1.0969
    0.0328
    0.0296
    0.0149
    0.0133
   -0.0023
   -0.0067
    0.0036
   -0.0008
    0.0007
   -0.0205
   -0.0012
   0.0142
   -0.0141
   -0.0092
   -0.0072
    0.0042
    0.0188
    0.0153
    0.0249
```

Normalised Gain for this window is 0.086515 LPC coefficients for this window :- 161 1.0000

- -1.1409
- 0.0425
- 0.0368
- 0.0272
- 0.0296
- 0.0164
- -0.0090
- -0.0015
- 0.0009
- 0.0072
- 0.0090
- -0.0160
- -0.0132
- -0.0026
- -0.0096
- -0.0120
- 0.0120
- -0.0053 0.0007
- _ _ _ _
- -0.0110
- 0.0634

Normalised Gain for this window is 0.067823 LPC coefficients for this window :- 162

- 1.0000
- -1.1185
- 0.0327
- 0.0377
- 0.0305
- 0.0215
- 0.0168
- -0.0145
- -0.0027
- 0.0046
- -0.0082
- -0.0014
- -0.0098
- -0.0065
- 0.0029
- -0.0079
- -0.0091
- -0.0212
- -0.0121
- -0.0003
- 0.0805

```
Normalised Gain for this window is 0.075353
LPC coefficients for this window :- 163
    1.0000
   -1.2810
    0.1489
    0.0707
    0.0473
    0.0228
    0.0061
   -0.0017
    0.0172
   -0.0155
   -0.0268
    0.0167
    0.0084
   -0.0280
   -0.0301
    0.0018
   -0.0063
    0.0200
    0.0023
   -0.0236
    0.0622
 Normalised Gain for this window is 0.050266
LPC coefficients for this window :- 164
    1.0000
   -1.2234
    0.0718
    0.0623
    0.0446
    0.0204
    0.0129
    0.0014
   -0.0096
    0.0070
    0.0009
   -0.0040
    0.0089
    0.0176
    0.0088
```

-0.0314 -0.0316

```
0.0002
    0.0224
    0.0320
   -0.0007
 Normalised Gain for this window is 0.080671
LPC coefficients for this window :- 165
    1.0000
   -1.3604
    0.1843
    0.1054
    0.0503
    0.0544
   -0.0108
   -0.0607
   -0.0326
   -0.0066
    0.0272
    0.0395
    0.0247
   -0.0012
    0.0003
   -0.0066
   -0.0212
   -0.0151
   -0.0028
   0.0624
   -0.0221
 Normalised Gain for this window is 0.10454
LPC coefficients for this window :- 166
    1.0000
   -1.1371
    0.0580
    0.0537
    0.0366
   -0.0078
   -0.0165
   -0.0156
```

-0.0135 0.0041 0.0024 0.0086 0.0119

```
0.0019
   -0.0083
   -0.0089
    0.0017
    0.0128
    0.0161
    0.0276
   -0.0091
 Normalised Gain for this window is 0.083562
LPC coefficients for this window :- 167
    1.0000
   -1.0688
    0.0251
    0.0261
    0.0207
    0.0092
   -0.0041
   -0.0062
   -0.0081
   -0.0120
   -0.0038
   -0.0023
    0.0012
    0.0011
   -0.0072
   -0.0037
   -0.0047
    0.0015
    0.0148
    0.0209
    0.0283
 Normalised Gain for this window is 0.12534
LPC coefficients for this window :- 168
    1.0000
   -1.0959
    0.0288
    0.0279
    0.0140
    0.0131
    0.0055
   -0.0045
```

-0.0040

```
-0.0090
   -0.0071
   -0.0013
   -0.0026
    0.0028
    0.0004
   -0.0107
    0.0026
    0.0090
    0.0107
    0.0191
    0.0223
 Normalised Gain for this window is 0.17079
LPC coefficients for this window :- 169
    1.0000
   -1.0504
    0.0082
    0.0113
    0.0039
    0.0077
    0.0112
   -0.0021
   -0.0041
   -0.0089
   -0.0116
   -0.0046
   -0.0060
    0.0003
    0.0091
    0.0073
    0.0049
    0.0046
    0.0088
   -0.0003
    0.0333
 Normalised Gain for this window is 0.16474
LPC coefficients for this window :- 170
    1.0000
   -1.0735
    0.0209
```

0.00820.0061

```
0.0131
    0.0025
    0.0014
    0.0045
   -0.0119
   -0.0047
   -0.0070
   -0.0015
   0.0119
   -0.0042
   -0.0011
   0.0013
   -0.0005
   -0.0051
    0.0528
 Normalised Gain for this window is 0.12787
LPC coefficients for this window :- 171
    1.0000
   -1.4452
    0.2824
    0.1759
    0.0108
   -0.0452
    0.0515
   -0.0332
   -0.0260
    0.0274
   -0.0290
    0.0035
   -0.0160
    0.0257
    0.0282
   -0.0174
    0.0125
   -0.0050
   -0.0120
   -0.0279
    0.0509
 Normalised Gain for this window is 0.070318
```

LPC coefficients for this window :- 172

1.0000

- -1.2878
- 0.1626
- 0.1038
- 0.0710
- -0.0124
- 0.0108
- 0.0201
- -0.0295
- 0.0073
- -0.0485
- -0.0245
- 0.0383
- 0.0065
- 0.0080
- 0.0037
- -0.0330
- 0.0192
- 0.0075
- -0.0838
- 0.0885

Normalised Gain for this window is 0.021375 LPC coefficients for this window :- 173

- 1.0000
- -2.1035
- 1.5370
- -0.5607
- 0.4757
- -0.6419
- 0.5226
- -0.2684
- 0.0409
- 0.1454
- -0.2819
- 0.2115
- -0.0468
- -0.0894
- 0.2630
- -0.3363
- 0.1082
- 0.0589
- -0.1029
- 0.0772
- 0.0062

```
Normalised Gain for this window is 0.01156
LPC coefficients for this window :- 174
    1.0000
   -1.7352
   0.8107
   -0.0039
   0.0421
   -0.1173
   0.0832
   -0.0671
   -0.0394
   0.1060
   -0.0790
   0.1535
   -0.1078
   -0.0694
   0.1249
   -0.1117
   0.0132
   -0.0513
   -0.0427
   0.2063
   -0.0855
 Normalised Gain for this window is 0.0096725
LPC coefficients for this window :- 175
    1.0000
   -1.5548
   0.5396
   0.1034
   0.0197
   -0.0721
   -0.0087
   -0.0131
   -0.0147
   0.0091
   0.0311
   0.0508
   -0.0534
   0.0041
   -0.0303
```

-0.0359 -0.0061

```
-0.0169
0.0492
-0.0086
0.0287
```

Normalised Gain for this window is 0.010746 LPC coefficients for this window :- 176

- 1.0000
- -1.5510
- 0.4768
- 0.0859
- 0.1094
- -0.0992
- -0.0671
- 0.0345
- 0.0025
- 0.0087
- -0.0190
- -0.0064
- 0.0565
- -0.0351
- -0.0362
- 0.0148
- -0.0080
- -0.0016
- -0.0187
- 0.0314
- 0.0314

Normalised Gain for this window is 0.031016 LPC coefficients for this window :- 177

- 1.0000
- -1.2248
- 0.1315
- 0.0719
- 0.0176
- -0.0107
- 0.0063
- -0.0010
- -0.0272
- 0.0069
- 0.0176
- -0.0171
- 0.0439

```
0.0017
   -0.0413
   -0.0055
   -0.0319
   0.0246
   -0.0089
   -0.0188
    0.0784
 Normalised Gain for this window is 0.044693
LPC coefficients for this window :- 178
    1.0000
   -1.2960
    0.1769
    0.0819
    0.1039
   -0.0018
   -0.0360
   -0.0025
   0.0049
   -0.0126
   -0.0477
   0.0196
   -0.0326
   -0.0262
    0.0191
   -0.0129
    0.0088
   -0.0084
    0.0129
    0.0008
    0.0635
 Normalised Gain for this window is 0.043929
LPC coefficients for this window :- 179
    1.0000
   -1.2756
    0.1976
    0.0592
    0.0697
    0.0040
   -0.0286
   -0.0238
    0.0147
```

```
0.0332
   -0.0300
   -0.0260
   -0.0532
   -0.0290
   0.0259
    0.0101
   -0.0171
   -0.0144
    0.0259
    0.0274
    0.0476
 Normalised Gain for this window is 0.041425
LPC coefficients for this window :- 180
    1.0000
   -1.2027
    0.1192
    0.0752
    0.0242
   -0.0252
   -0.0137
    0.0288
    0.0089
   -0.0208
   -0.0357
   -0.0017
   0.0175
   -0.0059
    0.0163
    0.0149
   -0.0229
   -0.0177
    0.0084
   -0.0116
    0.0601
 Normalised Gain for this window is 0.039745
LPC coefficients for this window :- 181
    1.0000
   -1.2902
    0.2056
    0.0808
```

```
-0.0211
   -0.0158
    0.0225
    0.0418
    0.0066
   -0.0367
   -0.0691
    0.0562
    0.0427
   -0.0495
   -0.0108
   -0.0151
    0.0081
    0.0021
   -0.0363
    0.0856
 Normalised Gain for this window is 0.028773
LPC coefficients for this window :- 182
    1.0000
   -1.1231
    0.1102
    0.0047
    0.0073
    0.0097
   -0.0006
   0.0399
    0.0102
   -0.0078
   -0.0305
   -0.0824
    0.0054
    0.0373
    0.0237
   -0.0049
   -0.0447
    0.0290
    0.0128
   -0.0076
    0.0351
```

Normalised Gain for this window is 0.017858 LPC coefficients for this window :- 183 1.0000

- -1.2617
- 0.2147
- 0.0246
- 0.0614
- -0.0082
- -0.0150
- -0.0150
- -0.0042
- 0.0218
- -0.0620
- -0.0297
- 0.0685
- 0.0179
- -0.0231
- 0.0118
- 0.0020
- 0.0028
- 0.0525
- _____
- -0.0254
- -0.0175

Normalised Gain for this window is 0.018409 LPC coefficients for this window :- 184

- 1.0000
- -1.3476
- 0.2666
- 0.0346
- 0.0244
- 0.0477
- 0.0248
- -0.0293
- 0.0360
- 0.0180
- 0.0100
- -0.0931
- -0.0209
- 0.0611
- -0.0054
- -0.0056
- 0.0045
- 0.0320
- -0.0321
- -0.0637
- 0.0224
- 0.0443

```
Normalised Gain for this window is 0.018367
LPC coefficients for this window :- 185
    1.0000
   -1.4379
    0.3399
    0.0225
    0.0845
    0.0922
   -0.0528
   -0.0223
   0.1097
   -0.0056
   -0.2114
   -0.0362
   0.1736
   0.0240
   -0.0726
   -0.0103
   0.0510
   -0.0350
   -0.0768
    0.0953
   -0.0129
 Normalised Gain for this window is 0.017632
LPC coefficients for this window :- 186
    1.0000
   -1.5521
    0.5017
    0.0224
    0.1041
    0.0528
   -0.0440
   -0.0739
   0.1459
   -0.0231
   -0.2205
   -0.0256
    0.0770
    0.1247
   -0.0220
```

-0.0272 0.0292

```
-0.1259
```

-0.0146

0.1641

-0.0704

Normalised Gain for this window is 0.014033 LPC coefficients for this window :- 187

- 1.0000
- -1.8336
- 1.1379
- -0.4211
- 0.2609
- -0.0329
- -0.0947
- 0.0445
- 0.0813
- -0.0597
- -0.0788
- -0.0647
- 0.0335
- 0.1287
- -0.0214
- -0.0973
- 0.0904
- -0.1153
- -0.0184
- 0.2555

-0.1756

Normalised Gain for this window is 0.0089377 LPC coefficients for this window :- 188

- 1.0000
- -1.3701
- 0.3556
- 0.0032
- 0.0748
- 0.0925
- -0.0547
- -0.0900
- 0.0702
- 0.0293
- -0.0389
- -0.0330
- -0.0604

```
0.0170
    0.0175
    0.0077
    0.0647
   -0.0773
   -0.0341
    0.1506
   -0.0851
 Normalised Gain for this window is 0.0072841
LPC coefficients for this window :- 189
    1.0000
   -2.2374
    2.0844
   -1.4090
    1.1426
   -0.9979
    0.8980
   -1.0334
    1.1663
   -0.9322
    0.4696
   -0.2877
    0.2472
   -0.0305
   -0.3018
   0.4759
   -0.3151
    0.1568
   -0.2557
    0.2711
   -0.0907
 Normalised Gain for this window is 0.0070977
LPC coefficients for this window :- 190
    1.0000
   -1.9564
    1.2955
   -0.3973
    0.3044
   -0.4280
    0.4403
   -0.4141
```

```
-0.4111
    0.0912
    0.0529
    0.0084
    0.0944
   -0.4434
    0.5173
   -0.1940
    0.0133
   -0.1182
    0.0786
    0.0347
 Normalised Gain for this window is 0.0071378
LPC coefficients for this window :- 191
    1.0000
   -1.9138
    1.2739
   -0.4521
   0.2587
   -0.3939
    0.6789
   -0.6298
    0.3969
   -0.3183
    0.2604
   -0.1342
   -0.0530
    0.2429
   -0.4301
    0.3587
   -0.1612
    0.0813
   -0.0649
   -0.0353
    0.0818
 Normalised Gain for this window is 0.008802
LPC coefficients for this window :- 192
    1.0000
   -1.7872
    0.9486
   -0.0533
```

-0.0012

```
-0.2056
    0.3058
   -0.1923
    0.0278
   -0.0743
    0.1763
   -0.0612
   -0.1292
    0.1588
   -0.1250
    0.0205
   -0.0781
    0.1445
   -0.1283
    0.0301
    0.0608
 Normalised Gain for this window is 0.0086447
LPC coefficients for this window :- 193
    1.0000
   -1.8916
    1.0825
   -0.0855
    0.1947
   -0.5757
    0.3811
    0.0932
   -0.1968
   -0.0139
    0.0834
    0.0304
   -0.1149
    0.0256
    0.0889
   -0.0574
   -0.1438
   0.1290
   -0.0271
    0.0262
   -0.0072
```

Normalised Gain for this window is 0.006943 LPC coefficients for this window :- 194 1.0000

- -1.8942
 - 1.0372
- -0.1015
- 0.2225
- -0.4234
- 0.2880
- -0.0911
- -0.0795
- 0.1939
- -0.1307
- 0.0139
- -0.1345
- 0.1733
- 0.1143
- -0.2233
- -0.0210
- 0.0938
- -0.0541
- 0.0027
- 0.0363

Normalised Gain for this window is 0.00763 LPC coefficients for this window :- 195

- 1.0000
- -1.8369
- 0.9556
- -0.1450
- 0.2581
- -0.3159
- 0.2854
- -0.2038
- -0.1082
- 0.2928
- -0.1627
- -0.0398
- 0.0725
- -0.0588
- 0.0885
- -0.0218
- -0.0199
- -0.0339
- -0.0899
- 0.0951
- 0.0196

```
Normalised Gain for this window is 0.0070279
LPC coefficients for this window :- 196
    1.0000
   -1.5690
    0.5712
   -0.0267
   0.1697
   -0.0289
   -0.0181
   -0.0730
   -0.0292
   0.0661
   -0.0092
   -0.0058
   -0.0184
   0.0220
   -0.0044
   -0.0386
   0.0821
   -0.0252
   -0.1077
   -0.0292
    0.1114
 Normalised Gain for this window is 0.0067048
LPC coefficients for this window :- 197
    1.0000
   -1.7980
    1.0591
   -0.3810
    0.2945
   -0.0497
   -0.1186
   -0.0142
   -0.0190
   0.1559
   -0.0206
   -0.1509
    0.0295
    0.0906
```

-0.0555 -0.0398 0.1042

```
-0.0547
```

- -0.0325
- -0.0747
- 0.1078

Normalised Gain for this window is 0.0067766 LPC coefficients for this window :- 198

- 1.0000
- -1.4837
- 0.4769
- 0.0351
- 0.1077
- -0.0592
- -0.0351
- -0.0541
- 0.0090
- 0.1204
- -0.0212
- -0.0963
- 0.0048
- 0.0651
- -0.0972
- 0.0298
- 0.0866
- -0.0417
- 0.0103
- -0.1090
- 0.0918

Normalised Gain for this window is 0.0084833 LPC coefficients for this window :- 199

- 1.0000
- -1.6675
- 0.6706
- 0.0968
- 0.0076
- -0.0610
- -0.0468
- -0.1132
- 0.1506
- 0.1083
- -0.1024
- -0.0634
- -0.0137

- 0.0344
- 0.0202
- -0.0030
- 0.0039
- -0.0222
- 0.0756
- -0.0622
- 0.0195

Normalised Gain for this window is 0.012717

- 0.9950
- -1.6219
- 0.7478
- -0.1667
- 0.1836
- -0.1578
- 0.1318
- -0.1102
- 0.0671
- -0.0113
- -0.0212
- 0.0212
- -0.0345
- 0.01490.0241
- 0.0122
- -0.0122
- -0.0096
- -0.0114
- 0.0081
- -0.0045
- 0.0168
- 0.0707
- 0.3610
- 0.6295
- 0.4881
- 0.4038
- 0.3958
- 0.3351
- 0.3118
- 0.2877
- 0.2434
- 0.2165
- 0.2225

- 0.2097
- 0.2022
- 0.1845
- 0.1805
- 0.1397
- 0.1454
- 0.1220
- 0.1198
- 0.0772

OUTPUT MEAN AND STANDARD DEVIATION CURVES:





