Manual of MATLAB tools – 2D image of potential and CSD

1. Scripts in this package
   - txt2mat.m: format conversion program from .txt data (TAB) to .mat
   - shMovieDRed_nl.m : create two dimensional image of both potential and CSD

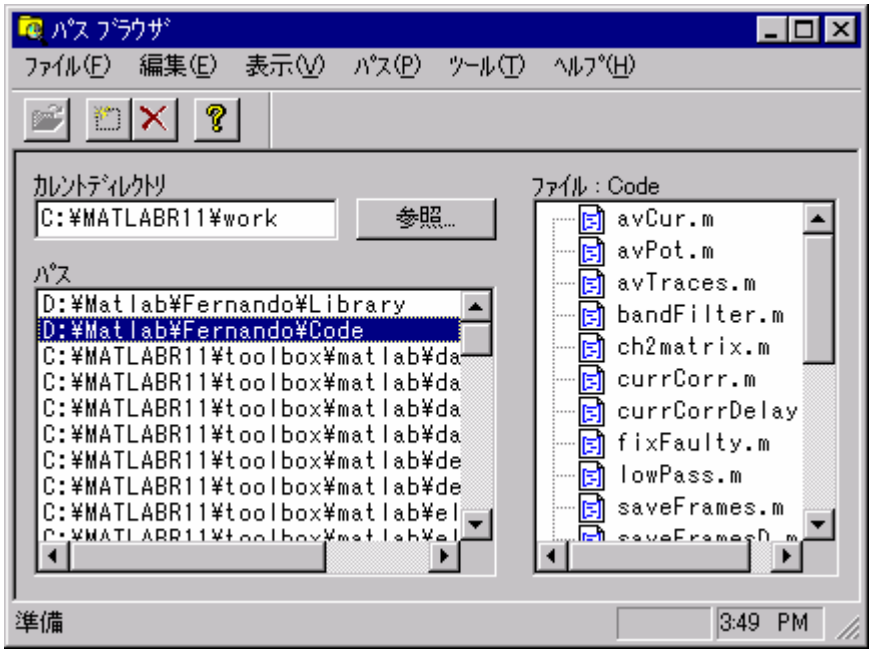
2. How to use
   1) Installation & copy

      Install MATLAB scripts in your PC and copy M-files to anywhere in you PC

   2) Initial setting

      First, boot up MATLAB software and select [file] – [path setting] from menu bar to open path browser as following. Select [path]-[add path] to set path for copied files under this browser.

      # in this case, added paths are “D:¥matlab¥Fernando¥code” and “D:¥matlab¥Fernando¥Library”



3. How to use each program

1) txt2mat.m – Data format conversion tool

This script can convert from .txt data (TAB separated) to .mat data for MATLAB. First, .txt data have to be exported from your recorded data using MED64 Conductor. Under “save as” window in Conductor, select file type to “TAB text” and unselect “header information”.

>> txt2mat(‘Original.txt’, ‘Output’, ‘label’, Fs, nTraces, badChannel)

File name before conversion: Original.txt

#note: do NOT put header information on exported data)

File name after conversion: Output.mat

(Parameters)

label: label

Fs: sampling frequency at recording (kHz; normally 20kHz -- > 20)

nTraces: number of sweep

badChannel: number of channel at which program will be skipped to convert (default: 0)

If run correctly, following message will be shown….

>> [txt2mat] Loading data...

>> [txt2mat] No invalid data channel

>> [txt2mat] Saving data...

(NOTE)

If time on exported data does NOT start from 0, please change to do so under Excel software or etc.

2) shMovieDRed_nl – Tool to create two dimensional image (potential and CSD)

>> shMovieDRed_nl('data', resolution, framestep)

replay data name: data.mat
(parameters)
resolution: resolution for interpolation. If you set "4", image will show as 32 x 32 using 8 x 8 data
frame step: replay speed. If you set "10", image will show every 1 ms

(NOTE) Regarding the limitation of vertical axis, please modify the value of "MaxV" in source code.

Created images of potential will be stored in 'tempPot' and CSD images will be stored in 'tempCSD' under working directory. To build continuous movie, please try with "Quick Time Pro", which requires upgrade from Quick time.