

Online LFP & CSD Analysis

mid-term point

march, 14th of 2013

GOALS

- | | |
|-----------------------------------------|------------------|
| 1. analysis protocol based on LFP & CSD | done |
| 2. real time analysis & visualization | Work in progress |

GOALS

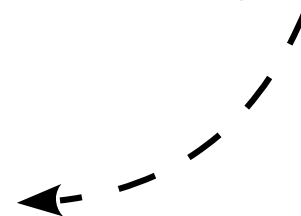
1. analysis protocol based on LFP & CSD

2. real time analysis & visualization

done

work in
progress

fastest step of the project

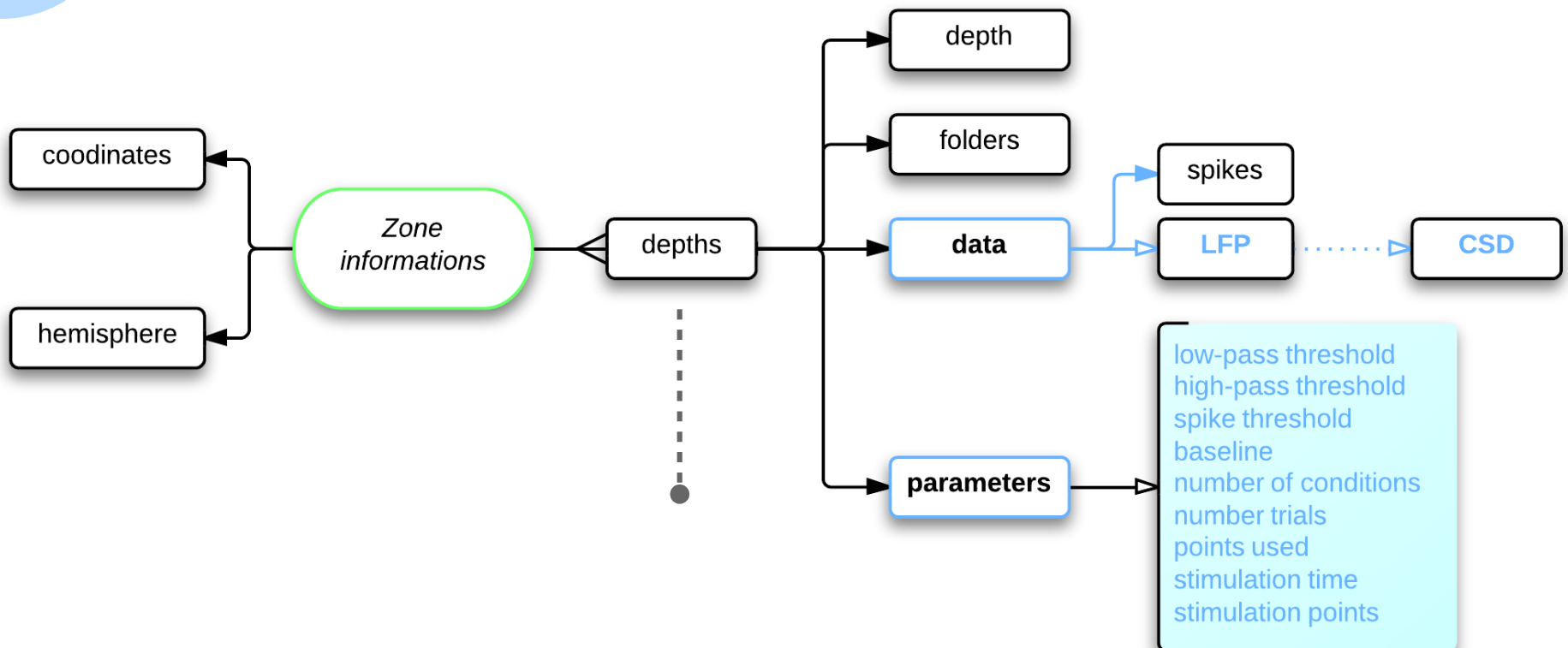


at the beginning...

strengths

Access to all data

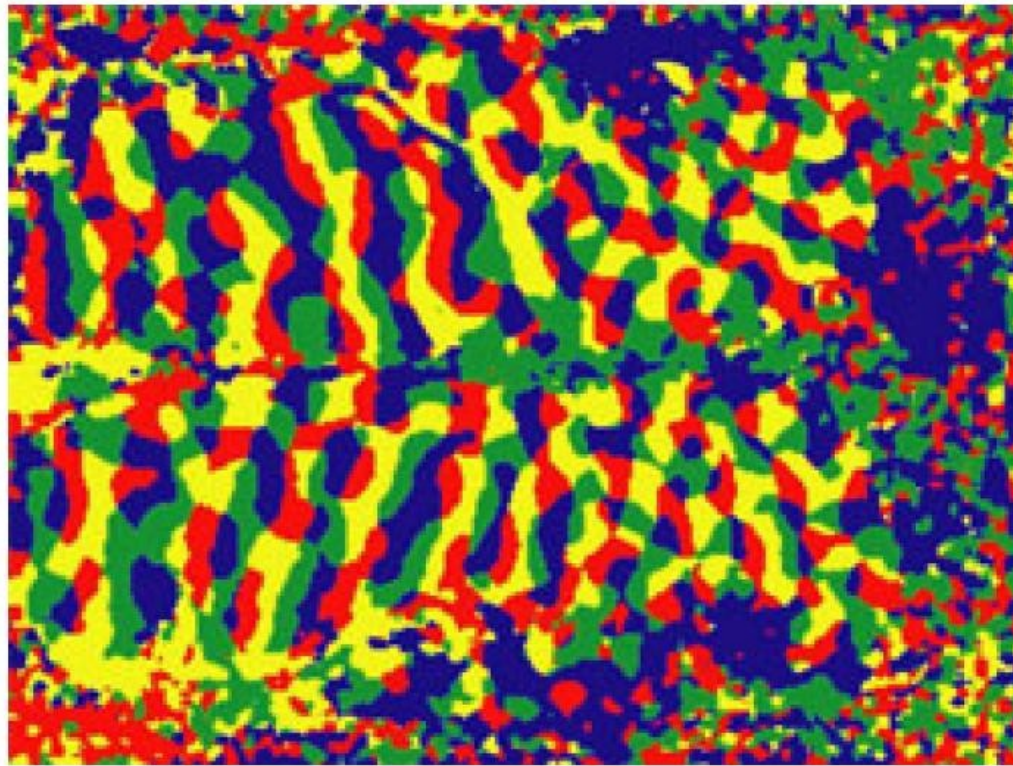
infos



Work from an orientation map

infos

map



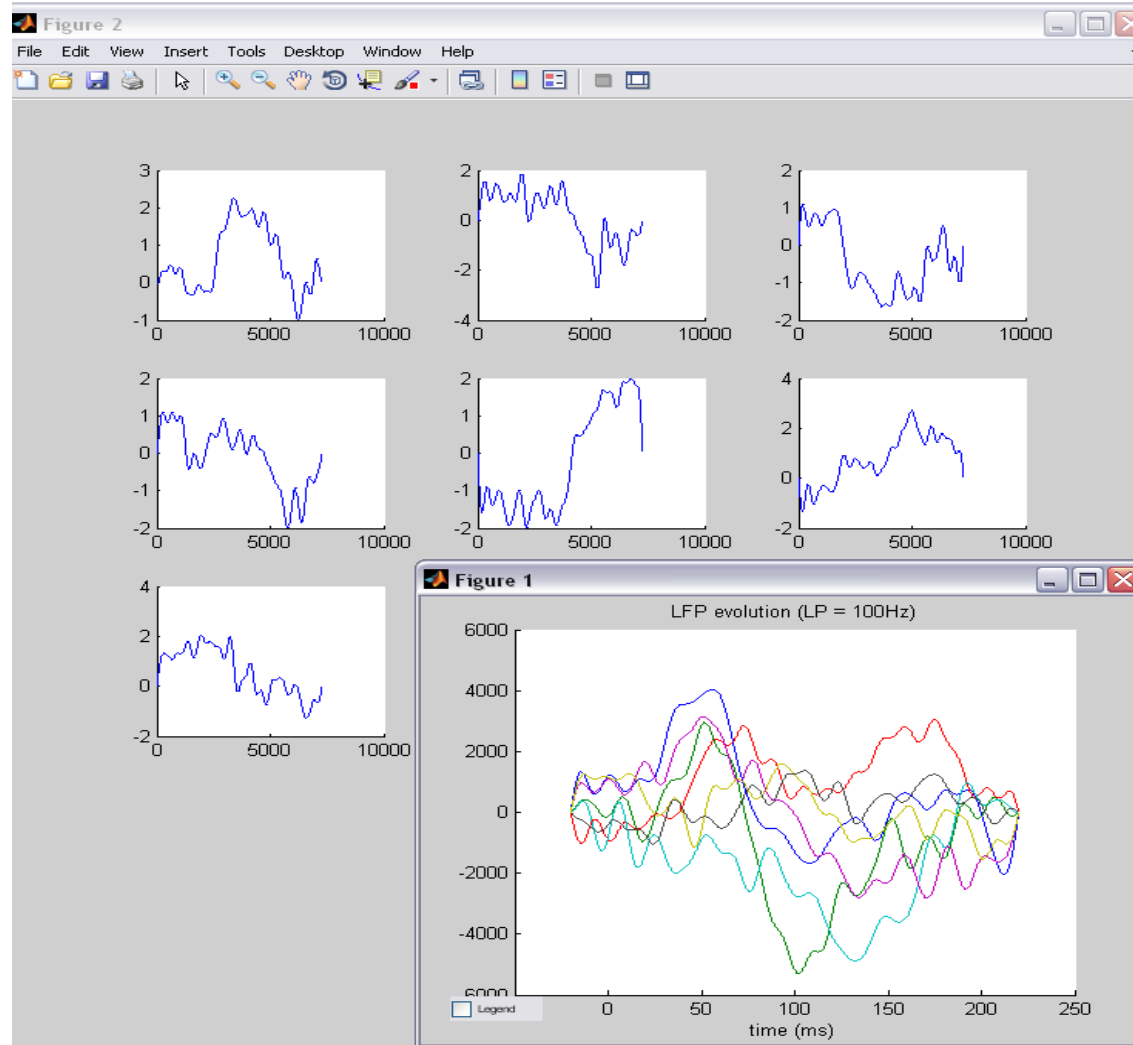
or any other image...

Real-time results analysis & visualization

infos

map

real-time



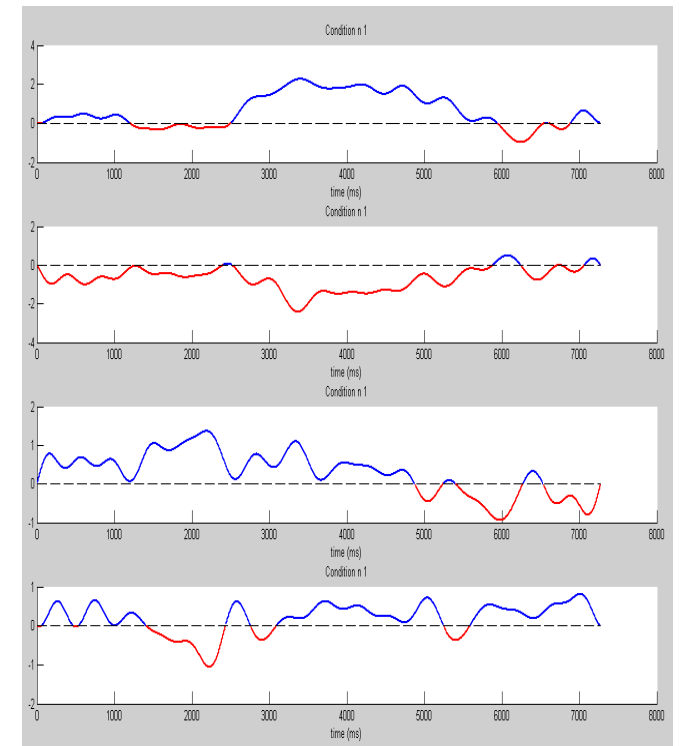
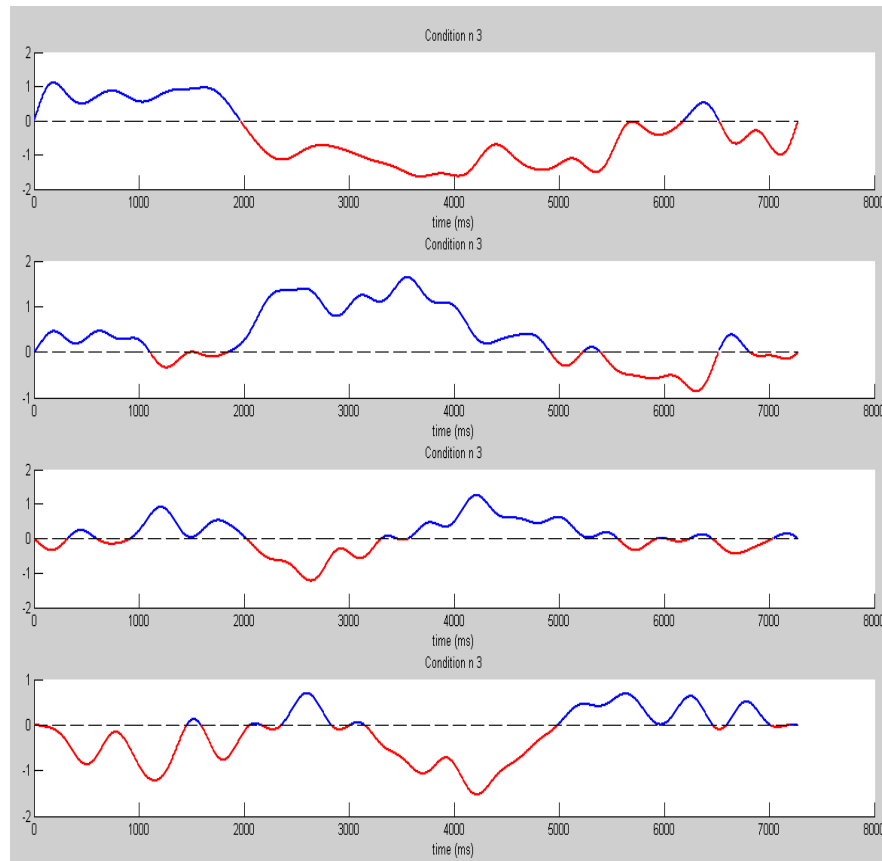
Easy and fast comparisons

infos

map

real-time

compare



Let's see how it looks
in practice...

OLCA -- Online LFP & CSD Analysis

Analysis to perform

- ☒ Local Field Potential
- ☒ Current Source Density
- ☒ recSites

Local Field Potential

Low-pass threshold (Hz)100

High-pass threshold (Hz)300

Spike threshold (std)4

Baseline (ms)20

Current Source Density

☐ Averaged rectified CSD

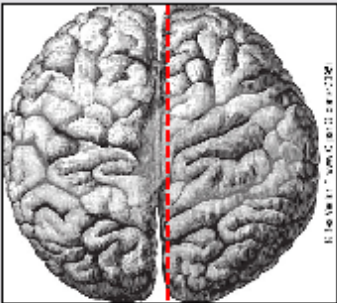
Note: Averaged rectified CSD (AVREC) waveform provides a measure of the temporal pattern of the overall strength of transmembrane current flow.

RecSites

About

cat
guinea pig
human
mouse
rat
import image

C:\olca\images\brain.jpg



In red is shown the dorsoventral axis (dorso at top).

Folders

Neuralynx folder
C:\Neuralynx_Data\ORA17p1

Results Folder
C:\olcaAnalysis_12-3-13

Info: Please select the folder where Neuralynx data will be written.

Info: Optional input. Please select an 'olca' folder.
If no folder selected, new 'olca' folder will be created in 'C:' directory.

GO!

QUIT

Coordinates

Hemisphere

☐ Left☐ Right

Zone

 Left-right axis Dorsoventral axis

Previous zones

Depth

Next

Previous

Previous depths

Parameters

Low-pass 100

High-pass 300

Spike 4

Baseline 20

other parameters

Display last results

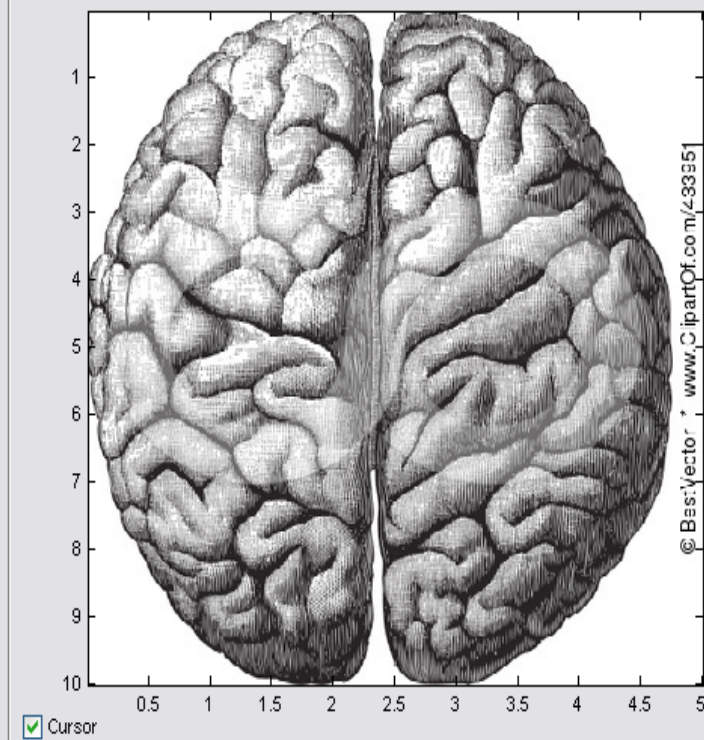
Timer

0

0

Start

Map



Coordinates

Hemisphere

☒ Left ☐ Right

Zone

Left-right axis

Dorsoventral axis

1

6

Previous zones

Depth

Next

Previous

300

250

Previous depths

Parameters

Low-pass

100

High-pass

300

Spike

4

Baseline

20

other parameters

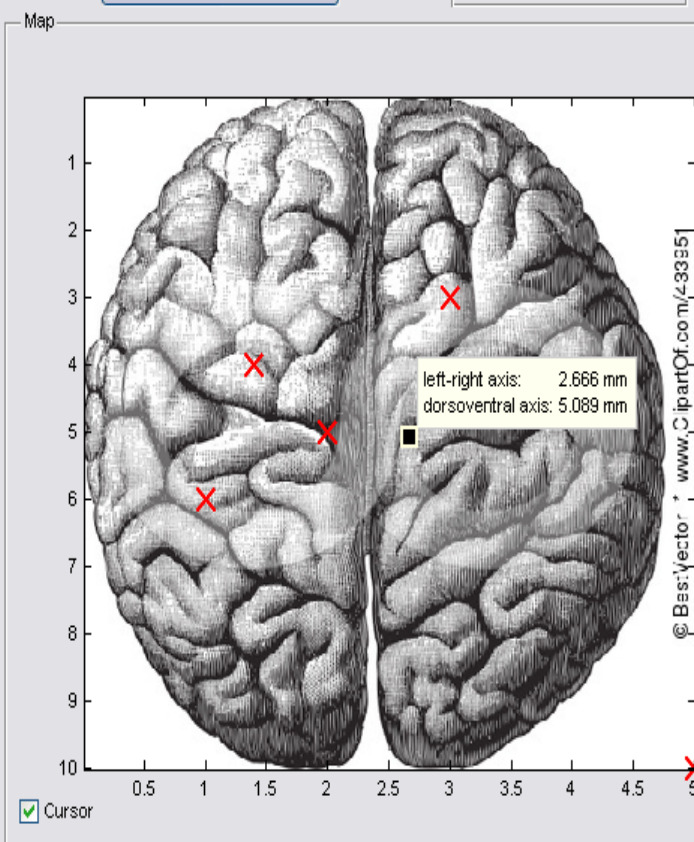
Display last results

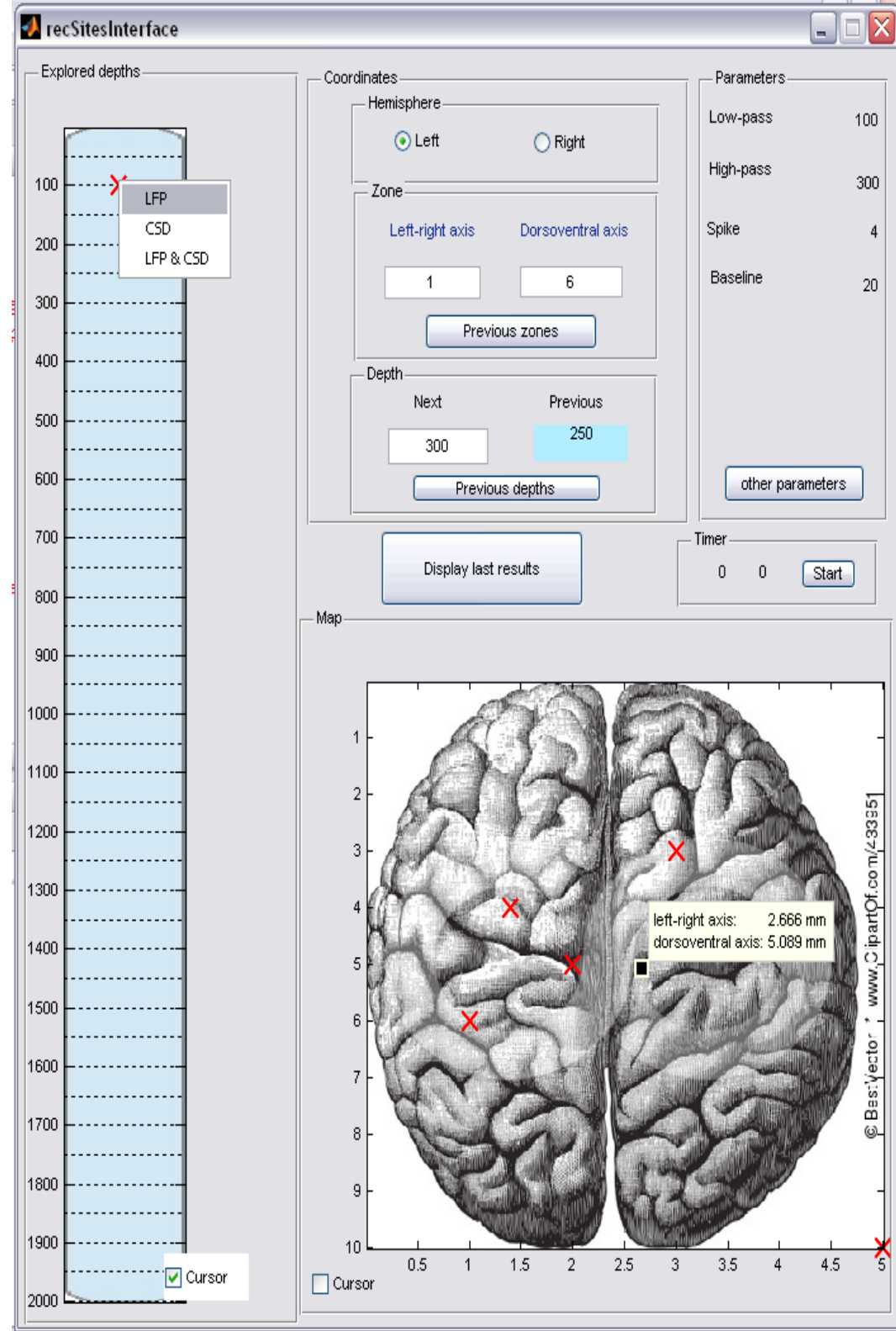
Timer

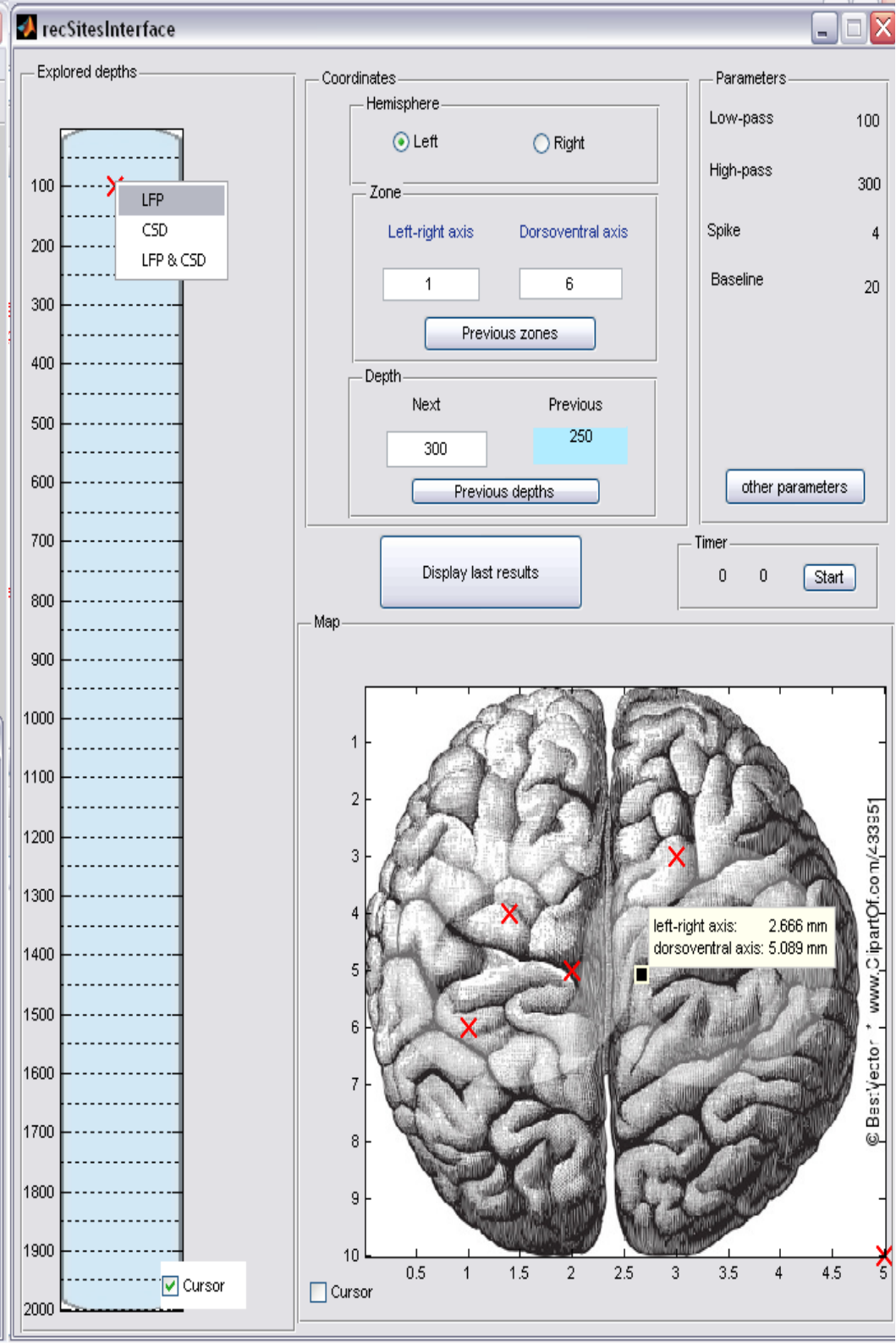
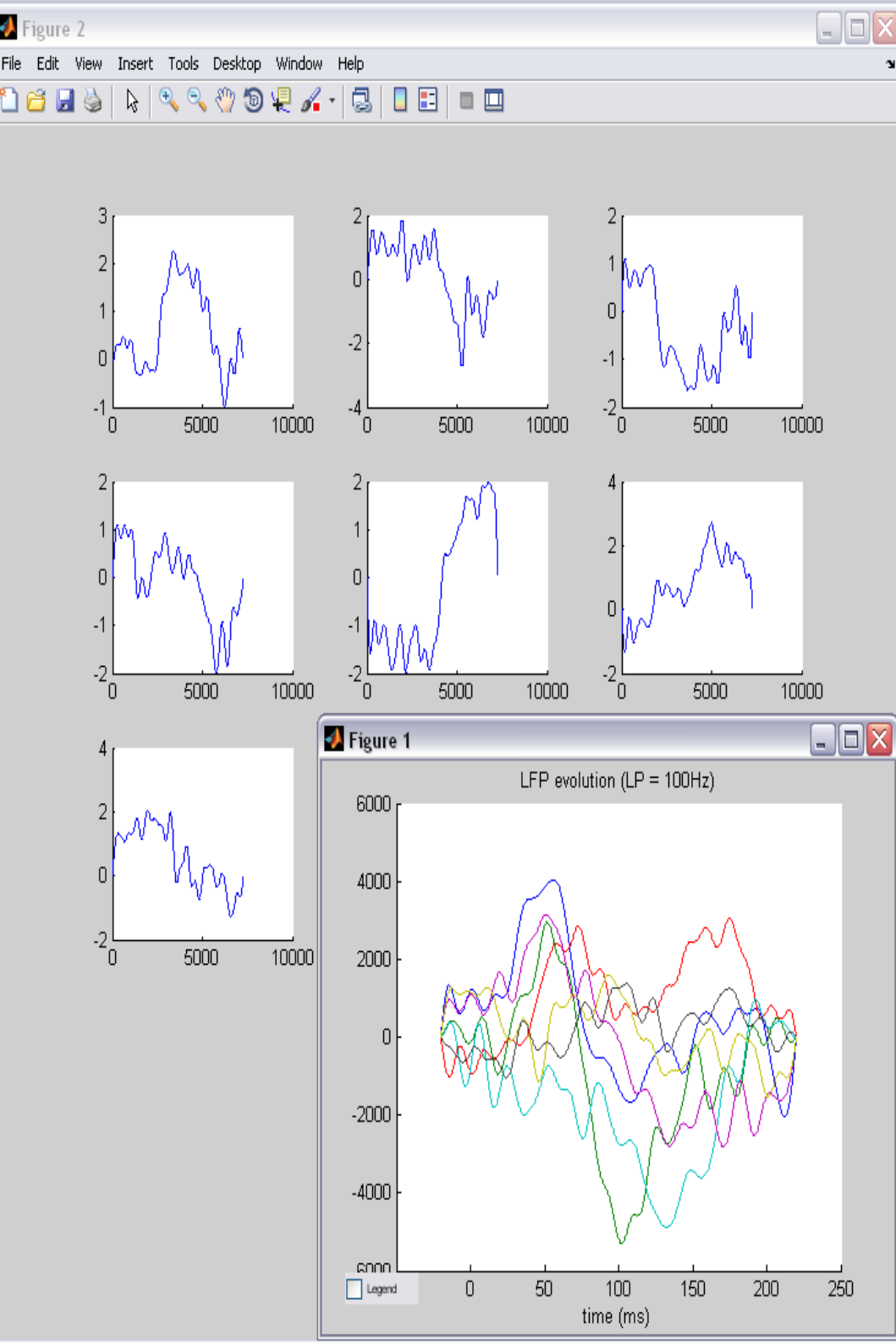
0

0

Start

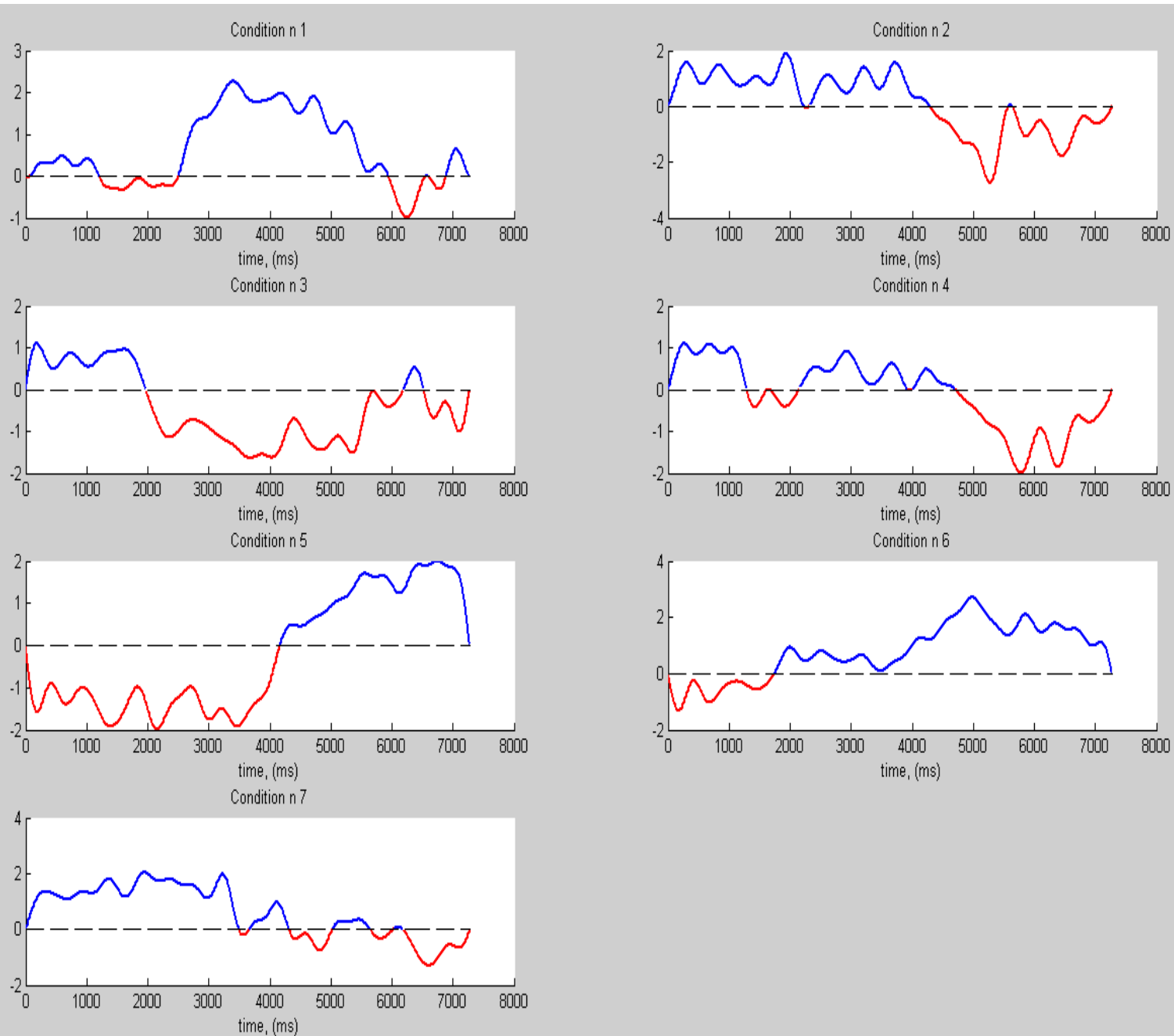




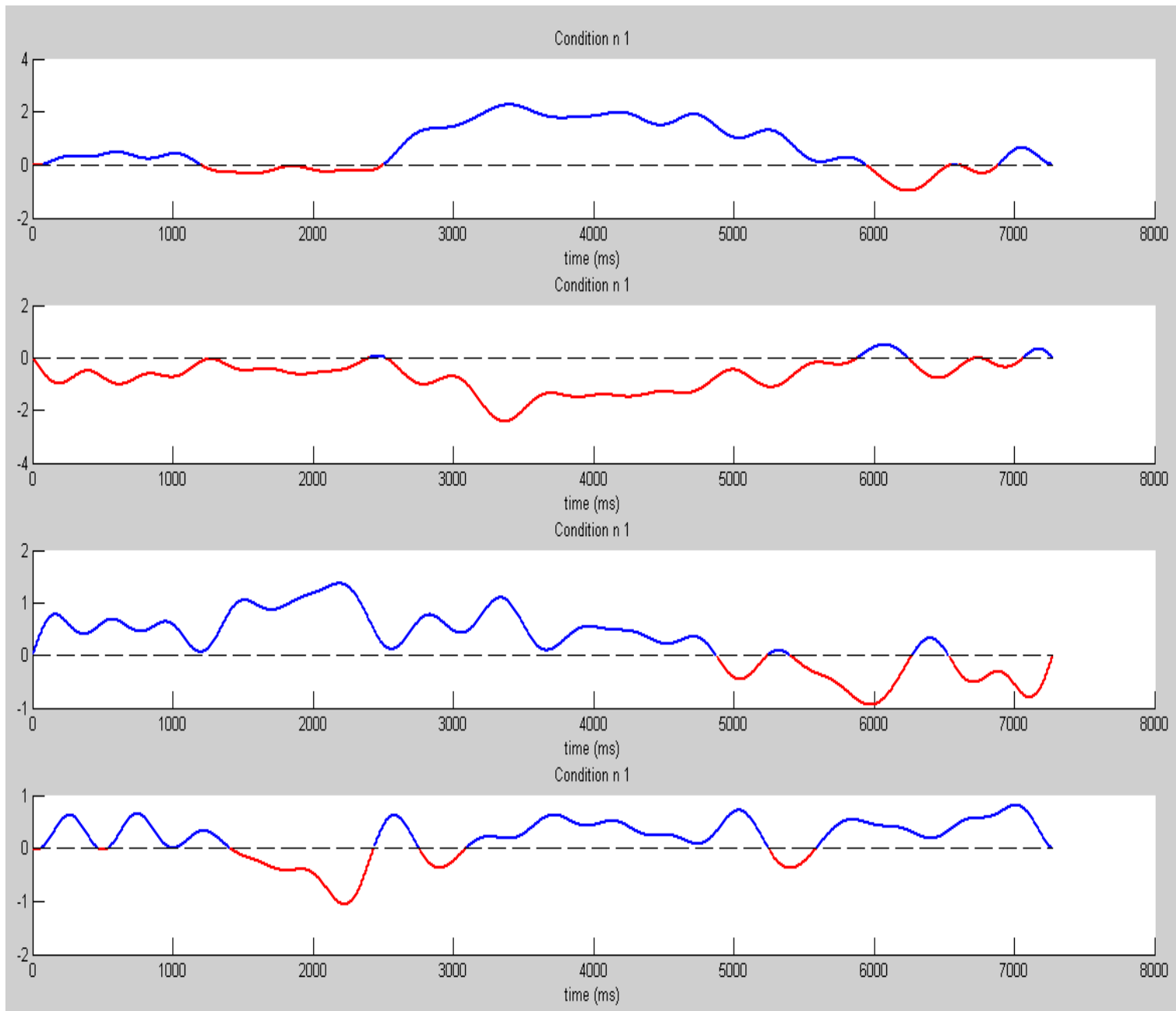


preliminary results

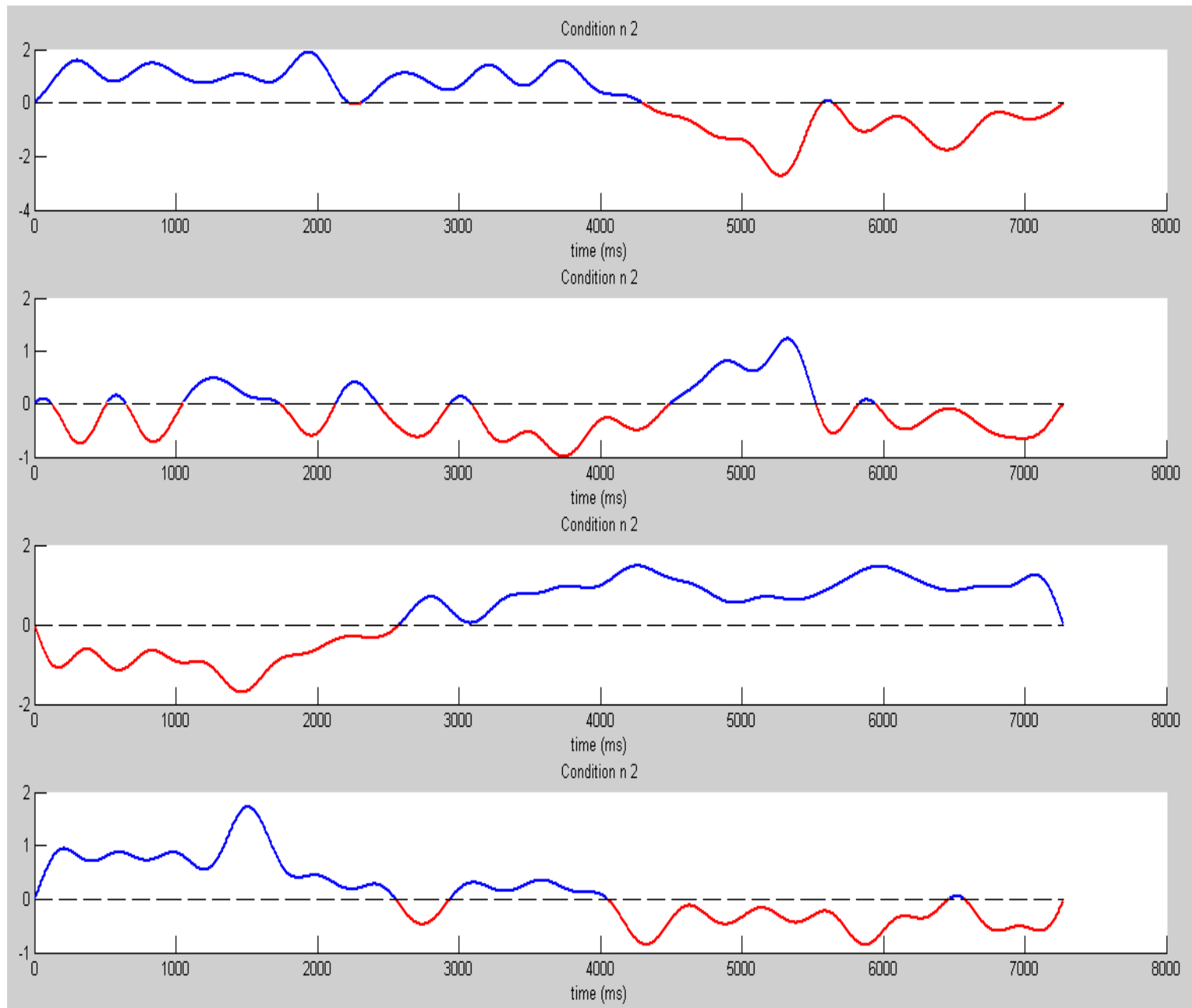
depth 50 micrometers – conditions 1 to 7



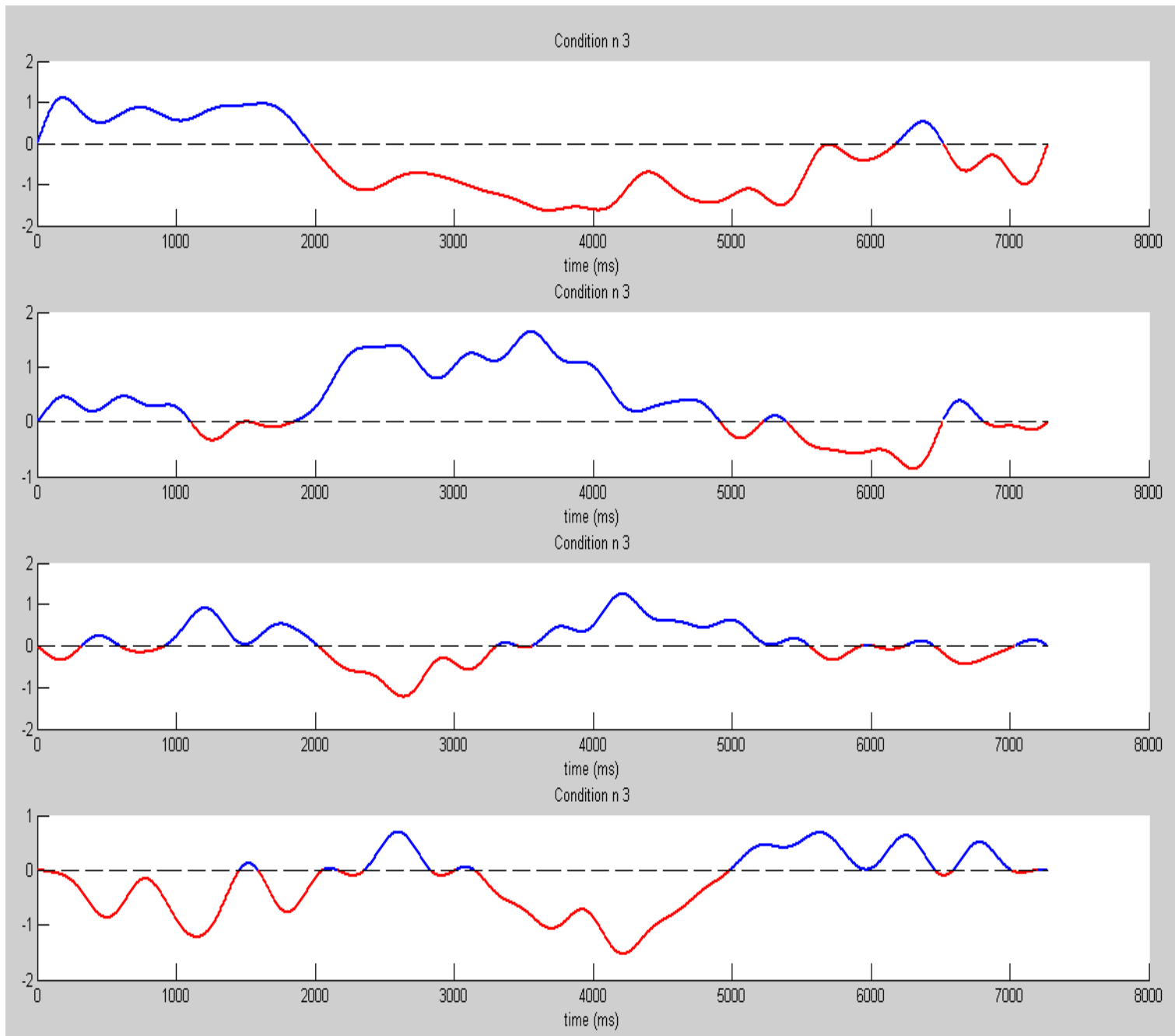
depth 50 to 300 micrometers - condition 1



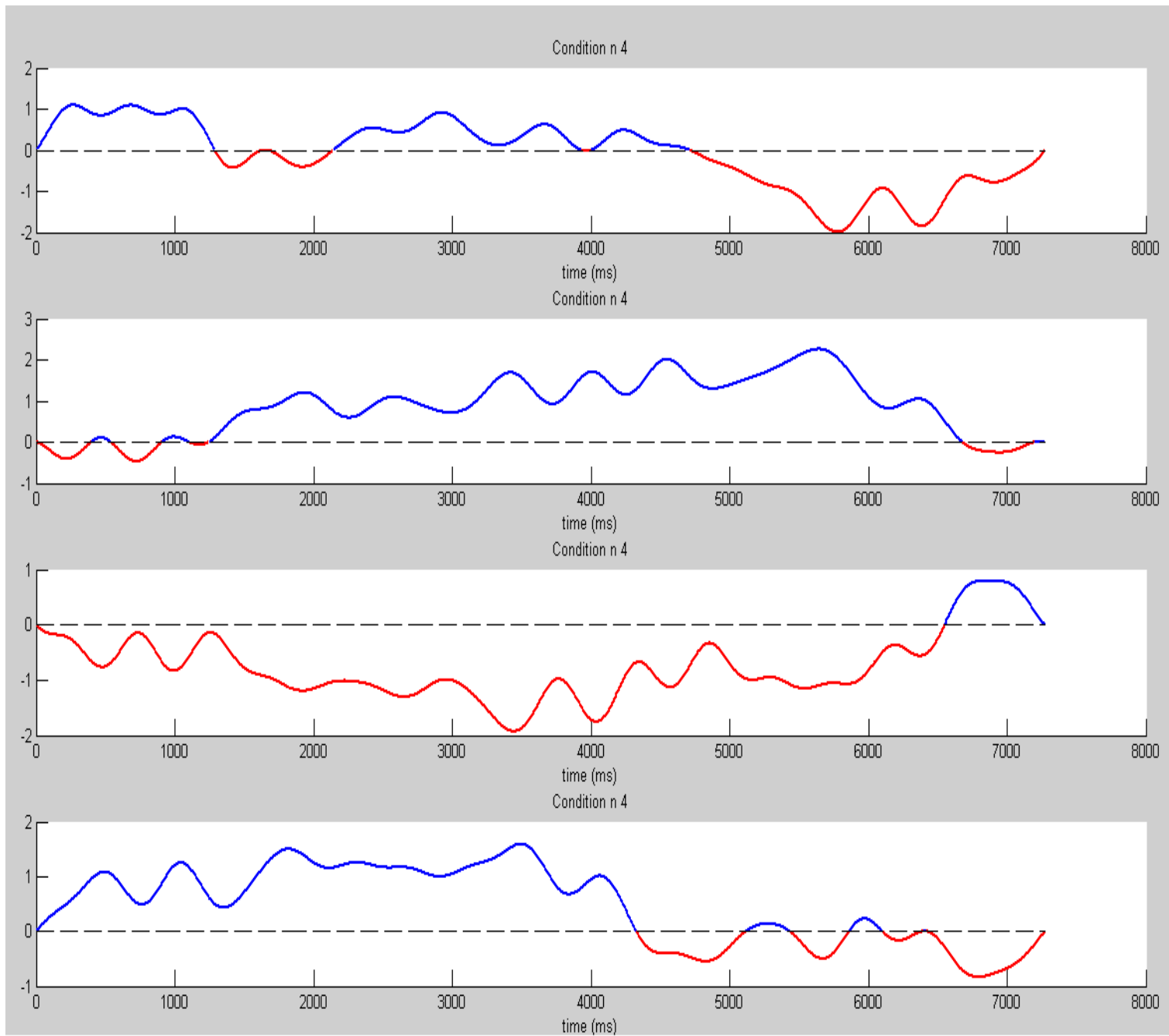
depth 50 to 300 micrometers - condition 2



depth 50 to 300 micrometers - condition 3



depth 50 to 300 micrometers - condition 4



COMING SOON

Better Results

Better visualization

Prealysis

thank you