

# Anywave Tutorial

## SEEG Analysis

version: Dec. 2, 2014

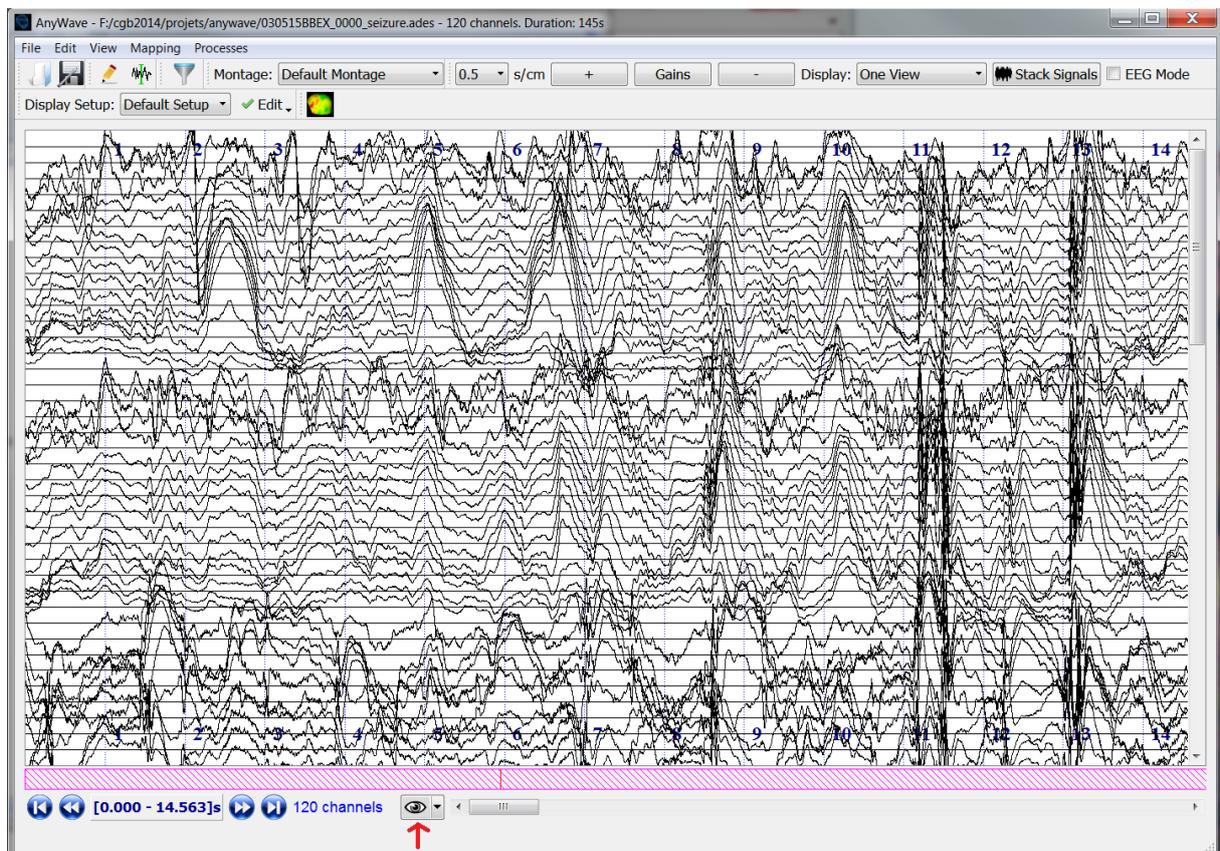
File: 030515BBEX\_0000\_seizure.ades

This file consists of an intracerebral recording of a seizure (Stereotaxic

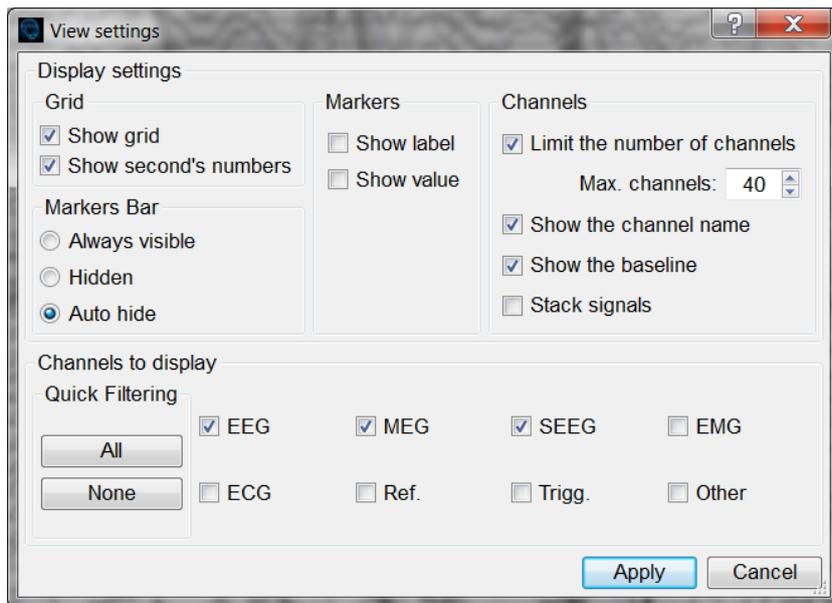
### 1) File opening, remontaging

File-> open -> 030515BBEX\_0000\_seizure.ades

the file is in the original (recording) montage



click on the eye icon  for opening the display, then click on 'show the channel names'. This interface can be used to change the type of data that is shown, the number of channels...



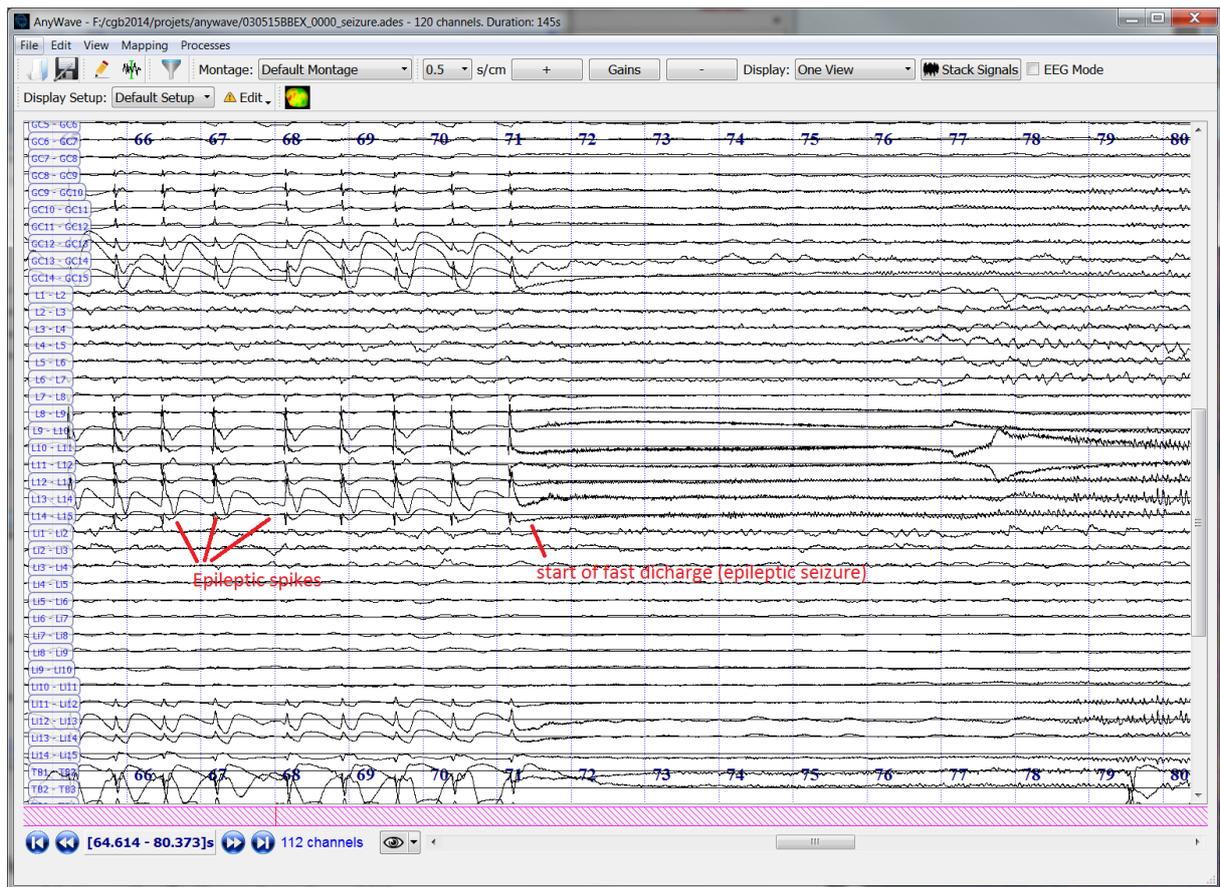
Click on 'apply'.

go to Edit-> Montage

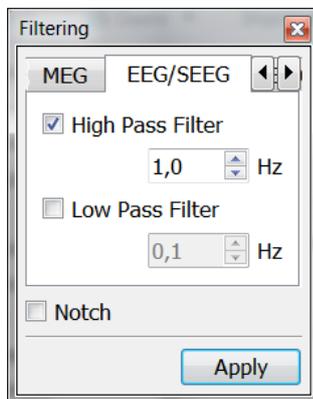
click on 'SEEG dipolar montage' and on 'apply'. The data is now in bipolar montage (difference of consecutive channels).



and scroll across channels to see the epileptic patterns.



Remove low frequency trends : click on the filter icon:



set high-pass filter under 'EEG/SEEG' tab to 1 Hz

## 2) Time-frequency analysis

go to time 8s

CTRL + click on channel GC9-GC10 (either on the channel name or on the traces)

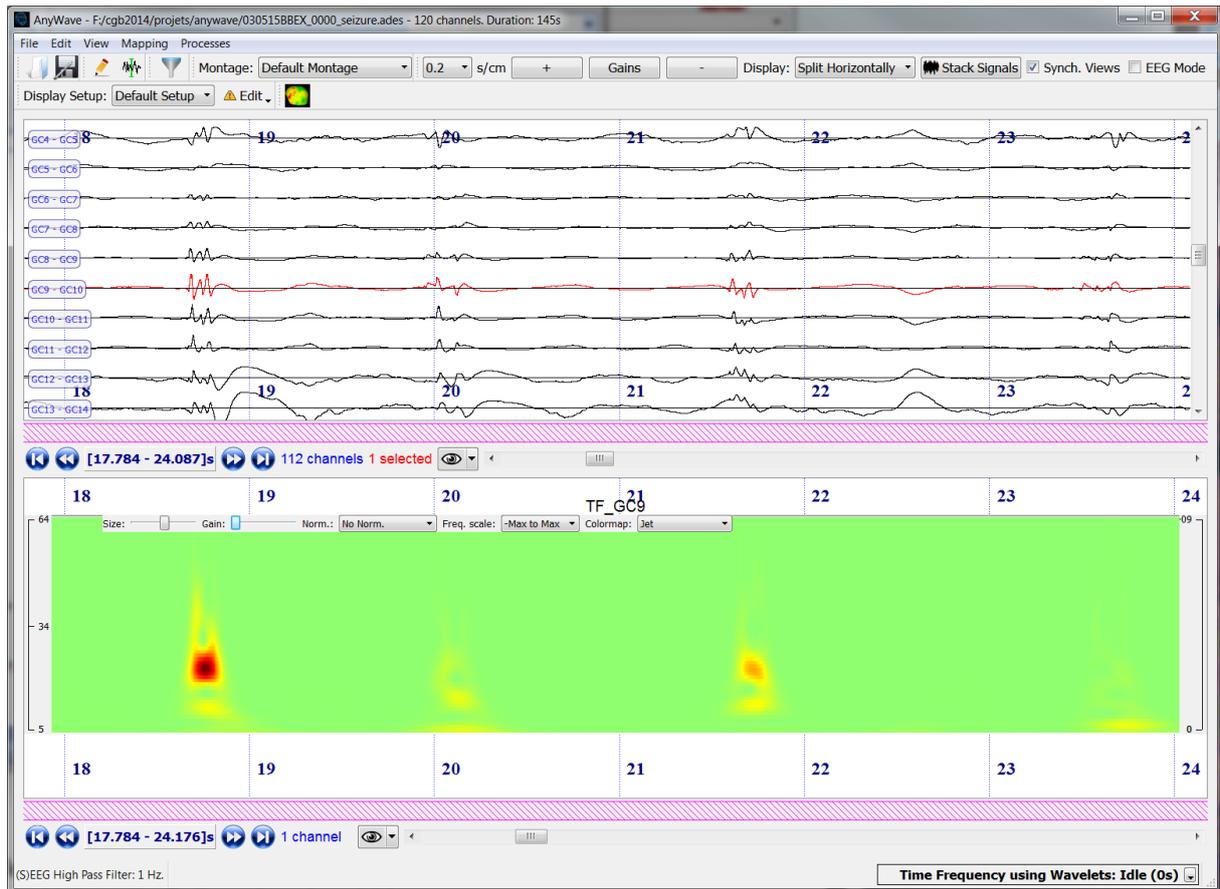
go to process-> time frequency

click on 'OK'

Display -> Split horizontally

the lower pane should display the time-frequency graph (if not, go to the eye and select the channel type 'other'; go to '0.2 s/page to zoom on the page'

place the arrow on top of time-frequency graph: one can change the normalization, colorsscale, gain, extent of graph on the page



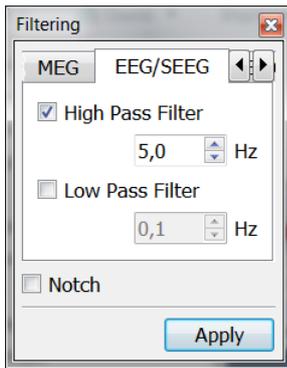
place cursor on the blob to check that the oscillation is at 22 Hz

### 3) graph computation with non-linear regression coefficient h2

Go back to original display :

and scale 0.5 s/cm

Set the high-pass filter at 5Hz to remove the slow waves



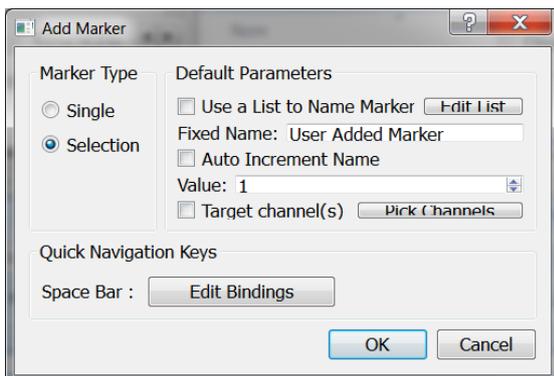
go to time 57s and select channels with pre-ictal spiking (CTRL + click on channel name), then right-click 'show selected channels'

right click, selection-> clear selection

Create a section marker



choose 'selection'



select the section between t= 59s and t=72s

launch the non linear correlation (h2) computation:

edit-> markers, right-click on the section that was just added (starts at 59s, duration 13s) and select 'lauch process'

The screenshot shows a 'Markers' dialog box with the following table:

Label	Value	Pos. (s)	Duration (s)	Target Channel(s)
User Added Marker	1	0	145	No
?	No Value	5,95703	No Duration	No
User Added Marker	1	58,9918	13,0069	No
CRISE	No Value	68,0234	No Duration	No

The 'Display Rules' section shows 'Use Rule: No Rule' and an 'Edit Rules' button.

The 'Statistics And Navigation' section shows 'Total: 4 marker(s)'. It has two filters: 'By Name: User Added Marker' (2 marker(s)) and 'By Value: 1' (2 marker(s)). Each filter has 'Prev.' and 'Next' buttons.

At the bottom, there are buttons for 'Export Wizard', 'Clear Trigger Channel', 'Load Markers', and 'Save Markers'.

A context menu is open over the table, listing: Edit, Quick Replace, Export Data, Write Value In Trigger Channel, **Launch Process** (highlighted), Go To, and Remove.

select h2 as process, and run

the h2 window opens after calculation; remove the asymetry measure; set the threshold to a high value (0.8) to see only very highly connected structures

