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eegspectrum

- **Description**

Computes FFT on an EEG file.

- **Usage**

eegspectrum myeegfilein myparameterfile.par myeventfile.pos [+std]

with :

- myeegfilein : input EEG file (without extension).
- myparameterfile.par : parameter file (with extension) containing parameters for FFT computation.
- myeventfile.pos : event file to process (with extension).
- options :
 - +std : computes an ep file with standard deviation of FFT, stored in filename.std.p .

- **Fields of parameter file and example**

fileprefix myfilename.fft	Prefix of the output files.
nb_eventcode 3	Number of event codes to process.
list_eventcode 10 12 19	List of the event codes to process.
prestim_nbsample 2000 2000 2000	List of the numbers of samples in the prestimulus period; one value for each event code.
poststim_nbsample 3000 3000 3000	List of the numbers of samples in the poststimulus period; one value for each event code; the total number of samples of the analysis is prestim_nbsample + poststim_nbsample + 1, the extra sample corresponds to the event itself
fft_channel_flag 1 1 0 1 0 0 0	List of the channels to compute: 1/0 for selected/unselected channels; the total number of flags is N+2, N being the number of recorded channels in myeegfilein file; the last 2 flags should be set to 0. In this example, N=5, and only channels number 1, 2, 4 will be computed and stored in the output files.
fft_channel_ref 0 5 0 6 0 0 0	List of the new reference for each channel before averaging (bipolar montage for instance): 0: no change of the reference, ≠0: electrode number (rank) to which the current channel should be re-referenced. The total number of values is N+2, N being the number of recorded channels in myeegfilein file; the last 2 flags should be set to 0. This field is optional. If omitted, the channels are not modified. In this example, N=5, and channel 1 is unchanged, channel 2 is referenced to channel 5, and channel 4 re-referenced to channel 6.
fft_center_signal 1 1 1	Flag to center signal before computing FFT (0=center signal, 1=no centering), by subtracting mean value of sliding window . This field is optional. If omitted, no centering is done.
fft_nb_sample_blackman 100 100 100	Number of samples of the Blackman window applied to signal before computing FFT. This field is optional. If omitted, the default value is 100 samples.
fft_nb_samples 1000 1000 1000	Number of samples of the sliding window of FFT. This field is optional. If omitted, the window size corresponds to the whole event window.
fft_step_nb_samples 100 100 100	Step of the sliding window of FFT. This field is optional. If omitted, the step is half of the sliding window.

erpa_view 4	Value stored in all output .p file. It is used by erpa to set the default mapping view (see eegavg ^[1]). This field is optional. If omitted, it is set to 0, and erpa default will be top view.
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- **Example**

- **Comments**

- **Current version**

1.07 12-04-2013

- **History**

- 1.00 19-03-2008 (PEA) : 1st version.
- 1.01 21-03-2008 (PEA) : adds parameter `fft_step_nb_samples` for adjusting step of sliding window.
- 1.02 25-03-2008 (PEA) : corrections for last sliding window and reference of channels.
- 1.03 14-04-2008 (PEA) : correction for mean (number of FFT out of square root).
- 1.05 26-11-2008 (PEA) : correction for signal center (sliding window instead of event window).
- 1.06 27-09-2010 (PEA) : update to use cmake and free release of Elan.
- 1.07 12-04-2013 (PEA) : minor modification for FFT initialization.

- **Files**

\$ELANPATH/bin/eegspectrum

- **See also**

eegavg

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CRNL



Source URL: <http://elan.lyon.inserm.fr/?q=eegspectrum>

Links:

[1] <http://elan.lyon.inserm.fr/?q=node/56>