cleanLine

CleanLine data version 2.1 is part of eeglab 2023.1

EEGpal use the second version of the implementation of the script with the command **cleanLineNoise**. It removes sharp spectral peaks from signal using Sleppian filters.

It removes noise from the AC current (power line frequency + harmonique, e.g. 50, 100, 150, 200 in Europe and 60,120,180,240 in US).

Input:

EEG : continuous EEG recording to clean up (as EEGLAB dataset structure).

Line noise frequencies to remove:
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Input Range : Unrestricted
Default value: 60
Input Data Type: real number (double)

p-value for detection of significan sinusoid :
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Input Range : [0 1]
Default value: 0.01
Input Data Type: real number (double)

Bandwidth (Hz):
This is the width of a spectral peak for a sinusoid at fixed frequency. As such, this defines the multi-taper frequency resolution.
Input Range : Unrestricted
Default value: 2
Input Data Type: real number (double)

Taper bandwidth:

tapers Precomputed tapers from dpss (default 2 Hz)

Sliding window length (sec):

Default is the epoch length.
Input Range : [0 4]
Default value: 4
Input Data Type: real number (double)

Sliding window step size (sec):

This determines the amount of overlap between sliding windows.
Default is window length : 1.
Input Range : [0 4]
Default value: 4
Input Data Type: real number (double)

Window overlap smoothing factor :

A value of 1 means (nearly) linear smoothing between adjacent sliding windows. A value of Inf means no smoothing. Intermediate values produce sigmoidal smoothing between adjacent windows
Input Range : [1 Inf]
Default value: 100
Input Data Type: real number (double)

FFT padding factor
Signal will be zero-padded to the desired power of two greater than the sliding window length. The formula is NFFT = 2^nextpow2(SlidingWinLen*(PadFactor+1)). e.g. For SlidingWinLen = 500, if PadFactor = -1, we do not pad; if PadFactor = 0, we pad the FFT to 512 points, if PadFactor=1, we pad to 1024 points etc.
Input Range : [-1 Inf]
Default value: 2
Input Data Type: real number (double)