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

**p-value for detection of significan sinusoid :**p-value for detection of significant sinusoid  
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)