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# Visualize the EEG output from the PREP processing pipeline.

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### Calling directly: prepReport

This helper reporting script expects that EEGReporting will be in the base workspace with an EEGReporting.etc.noiseDetection structure containing the report. It also expects the following variables in the base workspace:

- summaryFile - variable containing the open file descriptor for summary
- consoleID - variable with open file descriptor for console (usually 1 unless the output is redirected).
- relativeReportLocation report location relative to summary

The reporting function appends a summary to the summary report.

Usually the prepReport script is called through the function:

`publishPrepReport`

It is not a function itself, to allow the MATLAB publish to dump a nice output.

## Write data status and report header

```
EEG
Channels: 3
Frames: 187830
Error status: unprocessed
Boundary errors: [ ]
Detrend errors: [ ]
Line noise errors: [ ]
Reference errors: [prepPipeline failed to perform reference: ####
robustReference (line 75)
Could not perform a robust reference -- not enough good channels]
Prep version: PrepPipeline0.55.3
Data summary: sampling rate 512Hz
Channels interpolated during reference:
[ ]
Channels still noisy after reference:
[ ]
Channels removed during post-process:
[ ]
```

## Line noise removal step

```
Line noise method: clean
Sampling frequency Fs: 512 Hz
Line noise frequencies:
[ 60 120 180 240 ]
Maximum iterations: 10
Significant frequency p-value: 0.01
+/- frequency BW for significant peaks (fScanBandWidth): 2
Taper bandwidth: 2 Hz
Taper window size (seconds): 4
Taper step size (seconds): 1
Sigmoidal smoothing factor (tau): 100
Spectral pad factor: 0
Analysis frequency interval(fPassBand): [ 0, 256 ] Hz
Taper template: [ 1, 4, 1 ]
Line noise channels (3 channels):
[ 1:3 ]
```

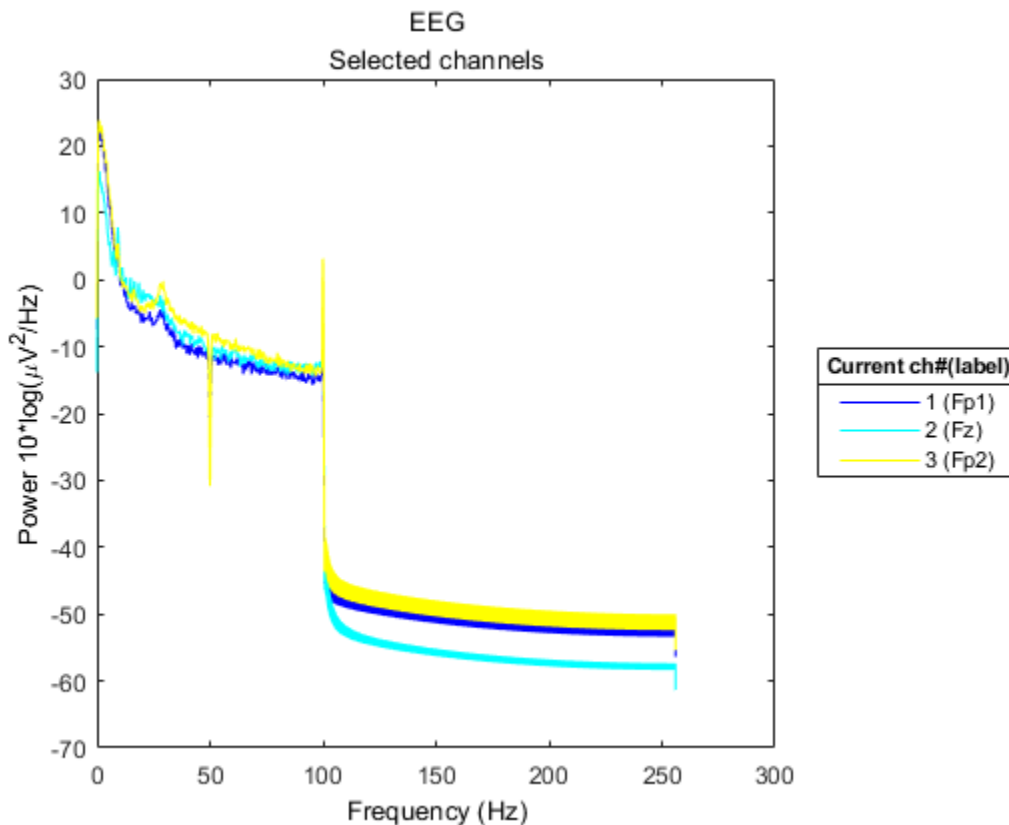
## Initial detrend for reference calculation

```
Detrend type: high pass
Detrend cutoff: 1 Hz
Detrend step size: 2.000000e-02
Detrend command:
```

```
EEG1 = pop_eegfiltnew(EEG1, [],1,1690,1,[],0);  
Detrended channels (3 channels):  
[ 1:3 ]
```

## Spectrum after line noise and detrend

```
pop_eegfiltnew() - performing 1691 point highpass filtering.  
pop_eegfiltnew() - transition band width: 1 Hz  
pop_eegfiltnew() - passband edge(s): 1 Hz  
pop_eegfiltnew() - cutoff frequency(ies) (-6 dB): 0.5 Hz  
pop_eegfiltnew() - filtering the data (zero-phase)  
firfilt(): |=====| 100%, ETE 00:00
```



## Referencing step

*Referencing: Dataset does not contain reference reports*

## Robust channel deviation (referenced)

*Skipping robust channel deviation*

## Robust channel deviation (original)

*Skipping robust channel deviation (original)*

## **Robust channel deviation (interpolated)**

*Skipping robust channel deviation (marking interpolated)*

## **Robust deviation window statistics**

*Skipping robust deviation window statistics*

## **Median max abs correlation (referenced)**

*Skipping median max abs correlation (referenced)*

## **Median max abs correlation (original)**

*Skipping median max abs correlation (original)*

## **Median max abs correlation (interpolated)**

*Skipping median max abs correlation (marking interpolated)*

## **Mean max abs correlation (referenced)**

*Skipping median max abs correlation (referenced)*

## **Mean max abs correlation (original)**

*Skipping mean max abs correlation (original)*

## **Mean max abs correlation (interpolated)**

*Skipping mean max abs correlation (marking interpolated)*

## **Bad min max correlation fraction (referenced)**

*Skipping bad min max correlation (referenced)*

## **Bad min max correlation fraction(original)**

*Skipping median max abs correlation (original)*

## **Bad min max correlation fraction (interpolated)**

*Skipping bad min max correlation fraction (marking interpolated)*

## **Correlation window statistics**

*Skipping correlation window statistics*

## Bad ransac fraction (referenced)

*Skipping bad ransac fraction (referenced)*

## Bad ransac fraction (original)

*Skipping bad ransac fraction (original)*

## Bad ransac fraction (interpolated)

*Skipping bad ransac fraction (marking interpolated)*

## Channels with poor ransac correlations

*Skipping channels with poor ransac correlations*

## HF noise Z-score (referenced)

*Skipping HF noise Z-score (referenced)*

## HF noise Z-score (original)

*Skipping HF noise Z-score (original)*

## HF noise Z-score (interpolated)

*Skipping HF noise Z-score (marking interpolated)*

## HF noise window stats

*Skipping HF window stats*

## Noisy average vs robust average reference

*Skipping noisy vs robust average reference*

## Noisy and robust average reference by time

*Skipping noisy and robust average reference by time*

## Noisy vs robust average reference (filtered)

*Skipping noisy vs robust average reference (filtered)*

## Noisy minus robust average reference by time

*Skipping noisy minus robust average reference by time*

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