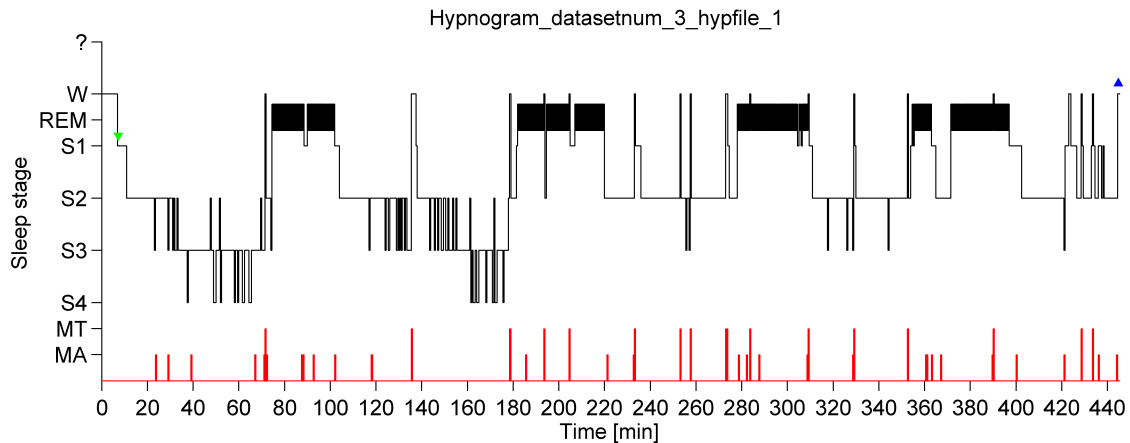


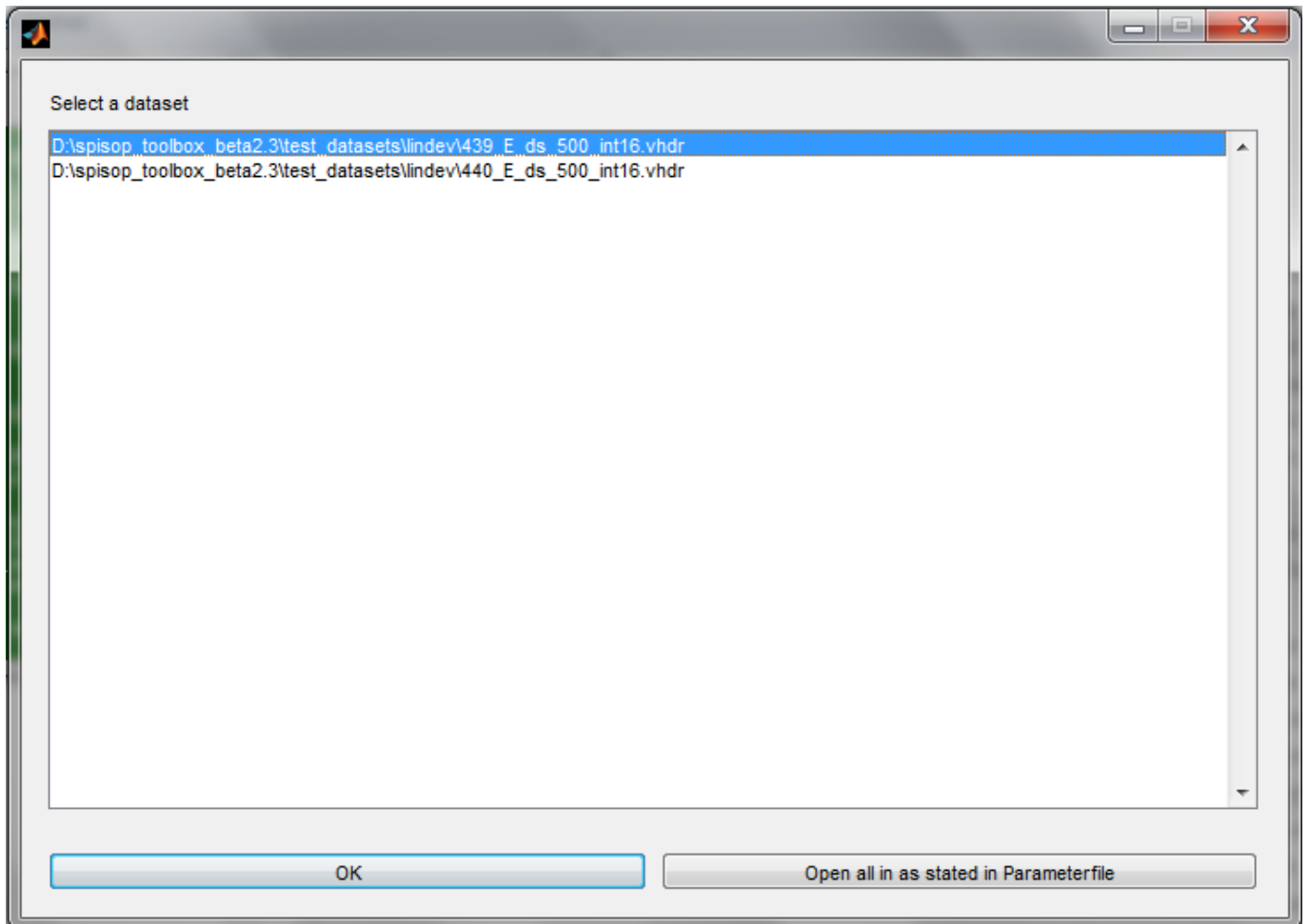
Screenshots

Generating hypnogram figures using the HYPCOMP function

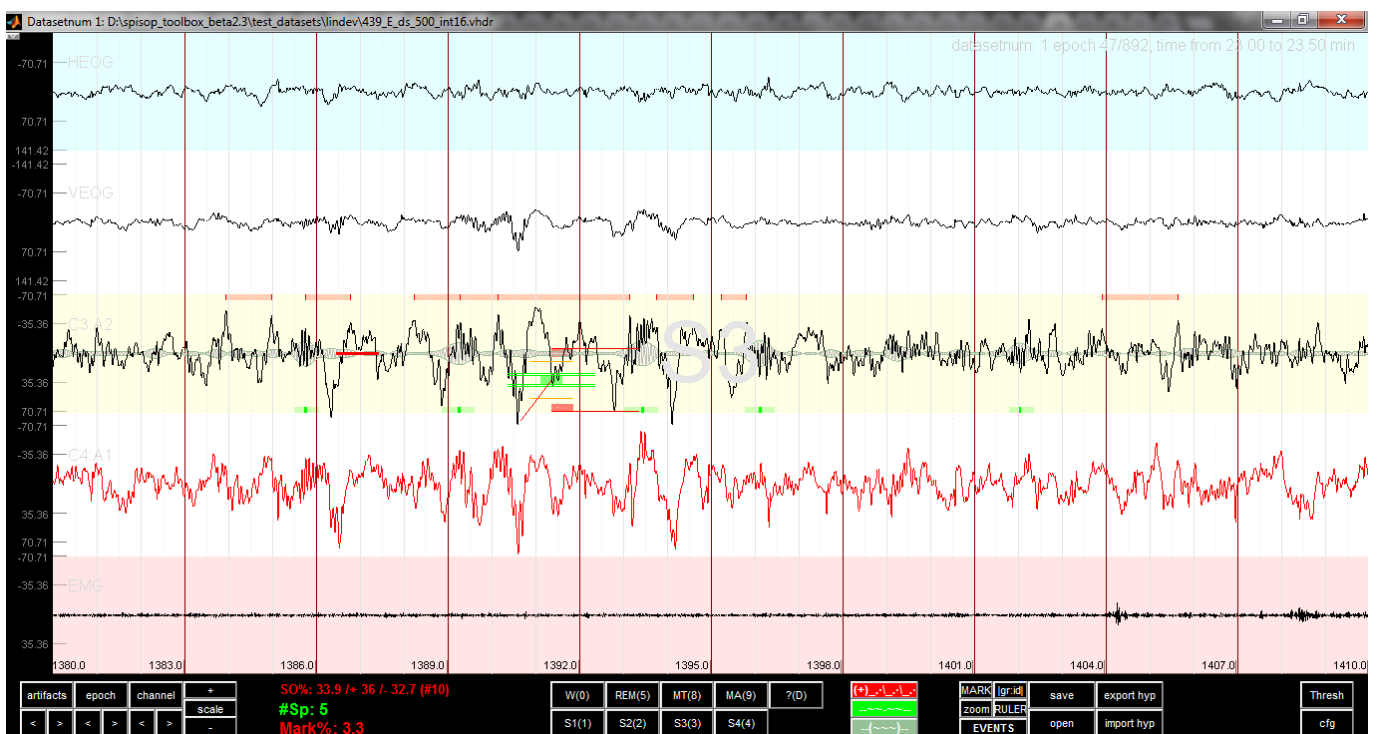


Sleep scoring within the BROWSER

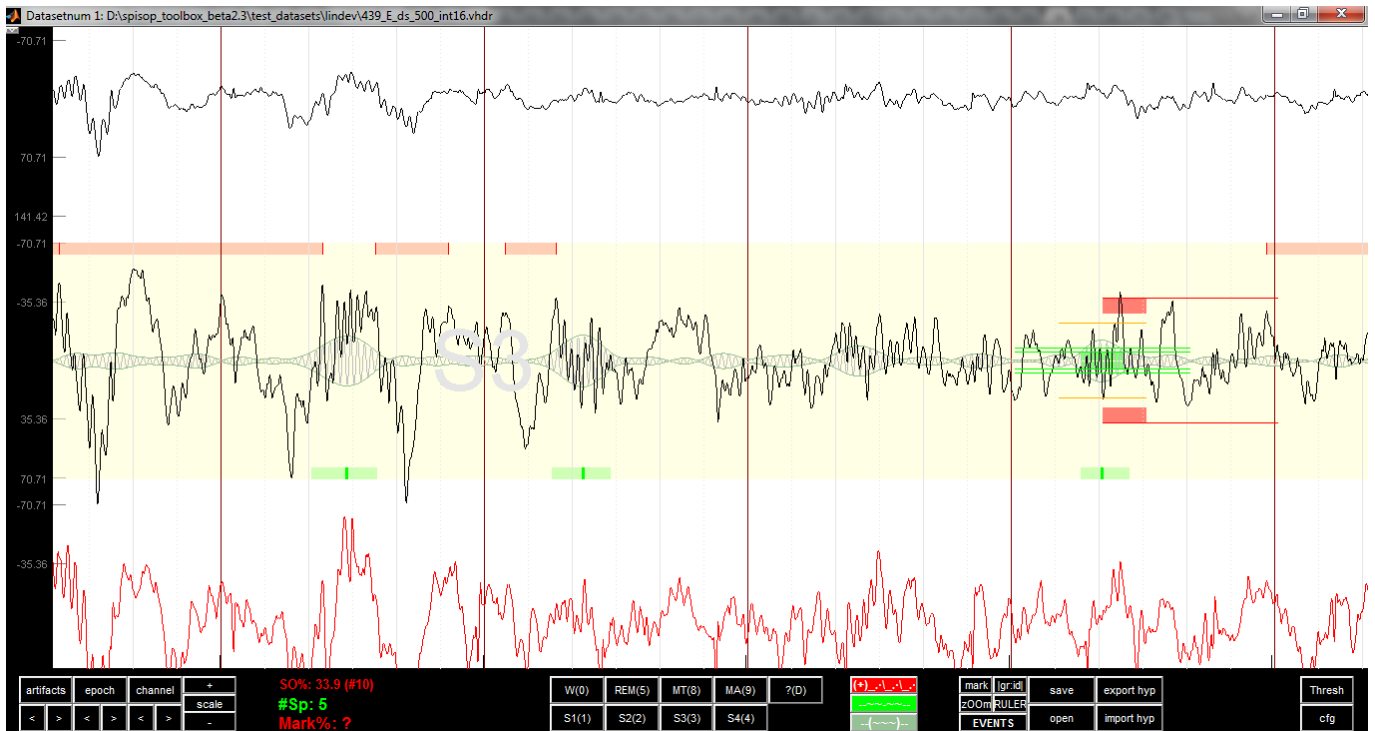
select a dataset



Scoring GUI (marking)



Scoring GUI (zoom)

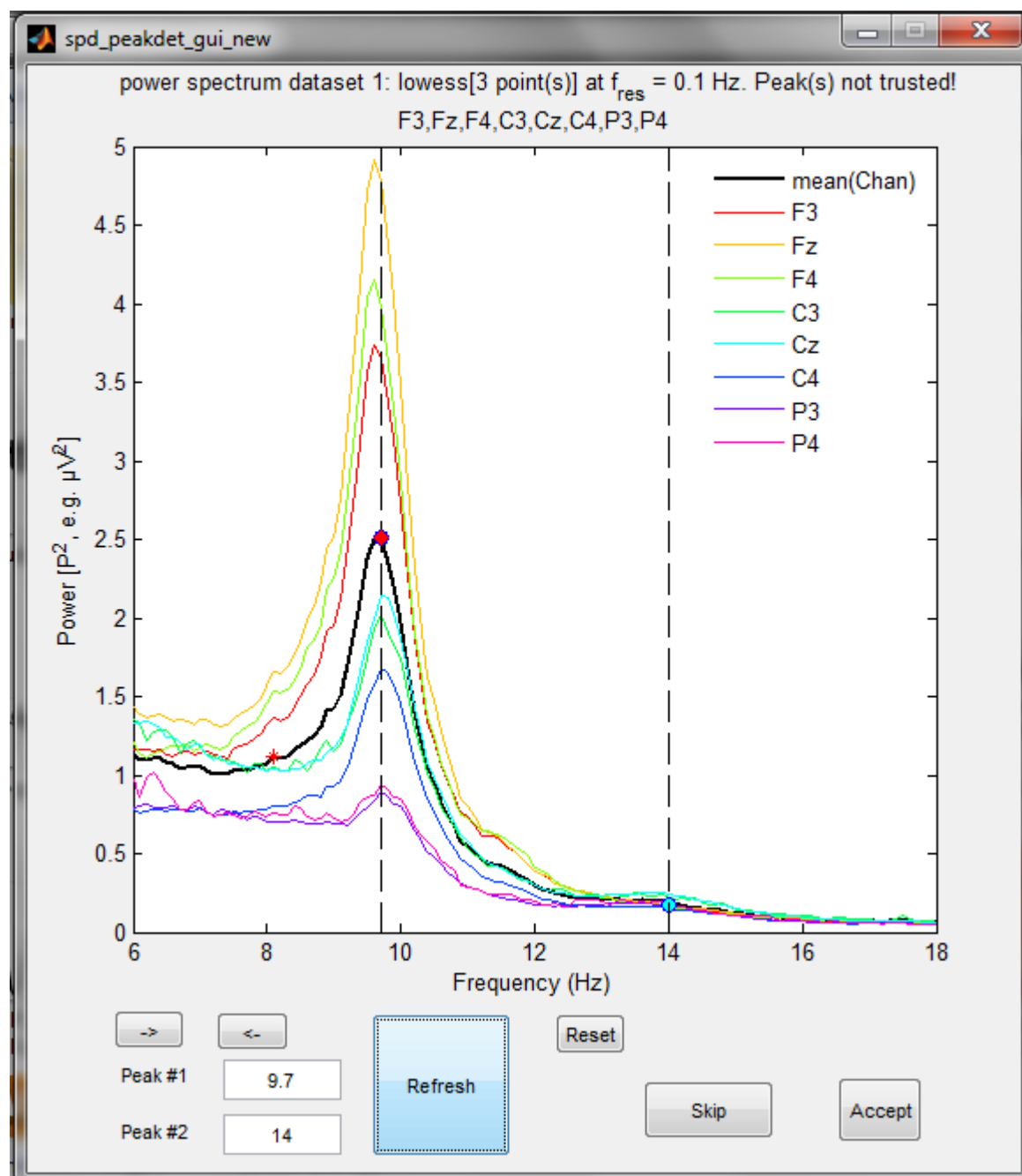


Scoring GUI (hypnogram)

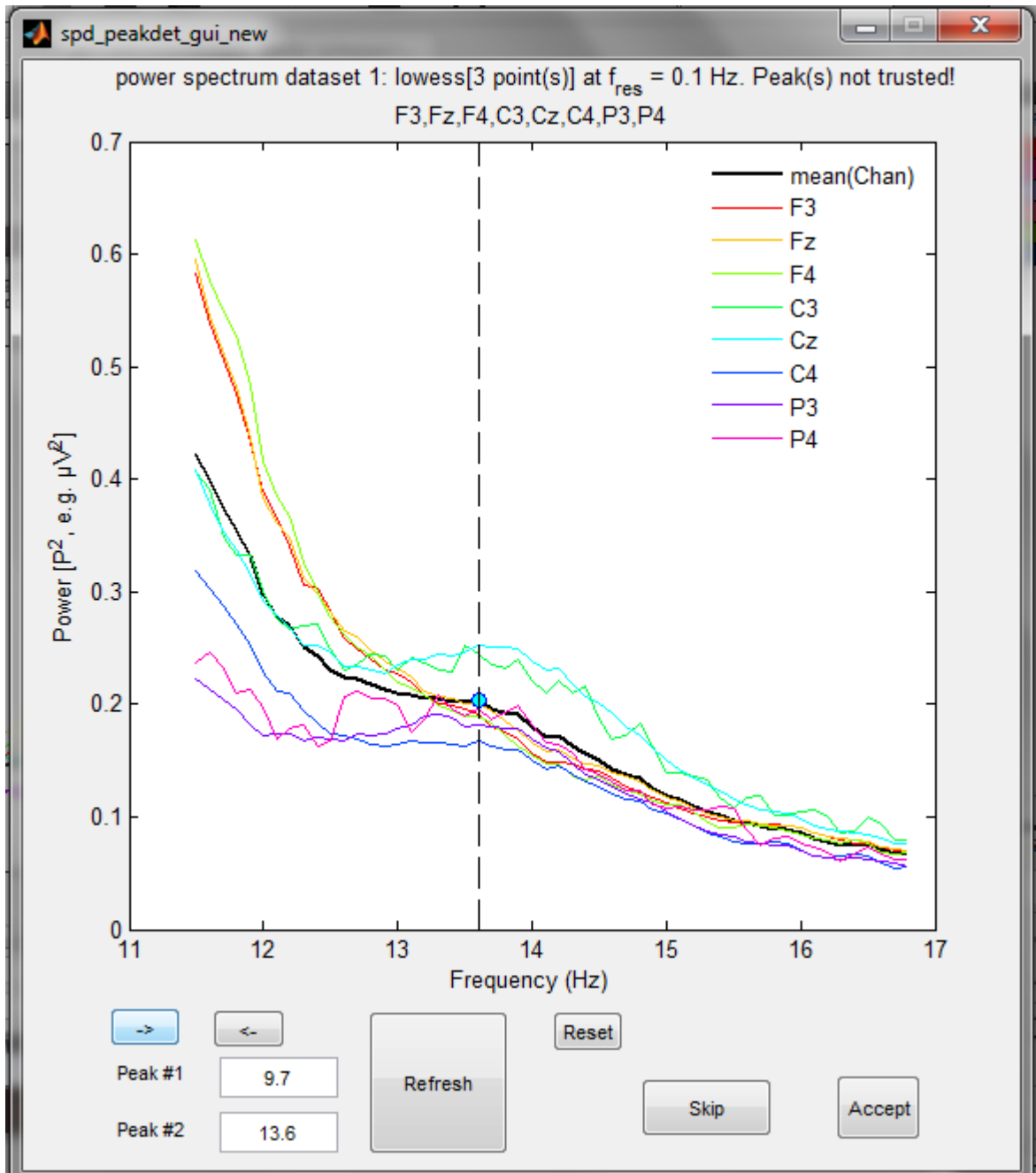


Frequency peak detection using FREQPEAK function

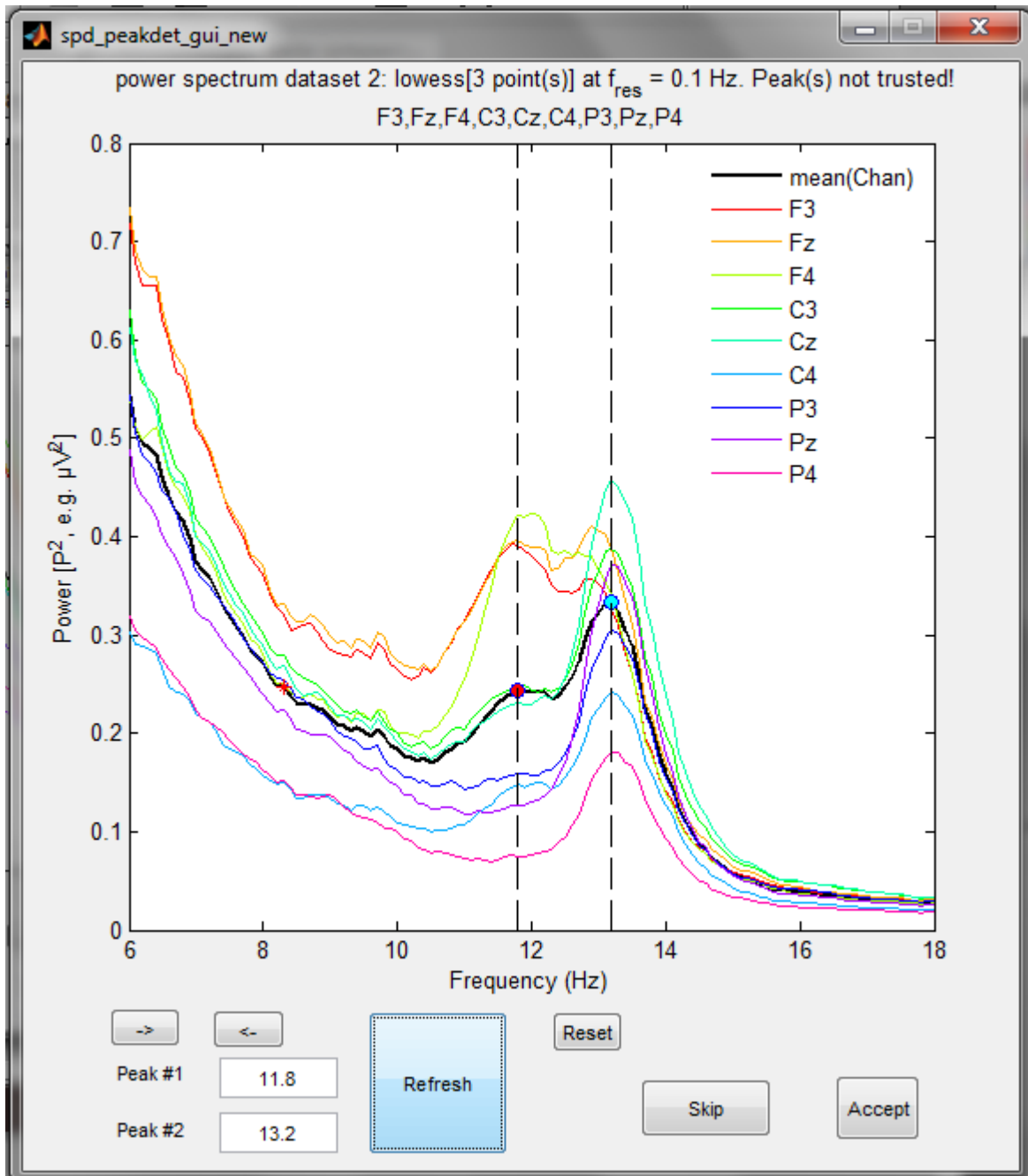
dominant “slow spindle power peak”



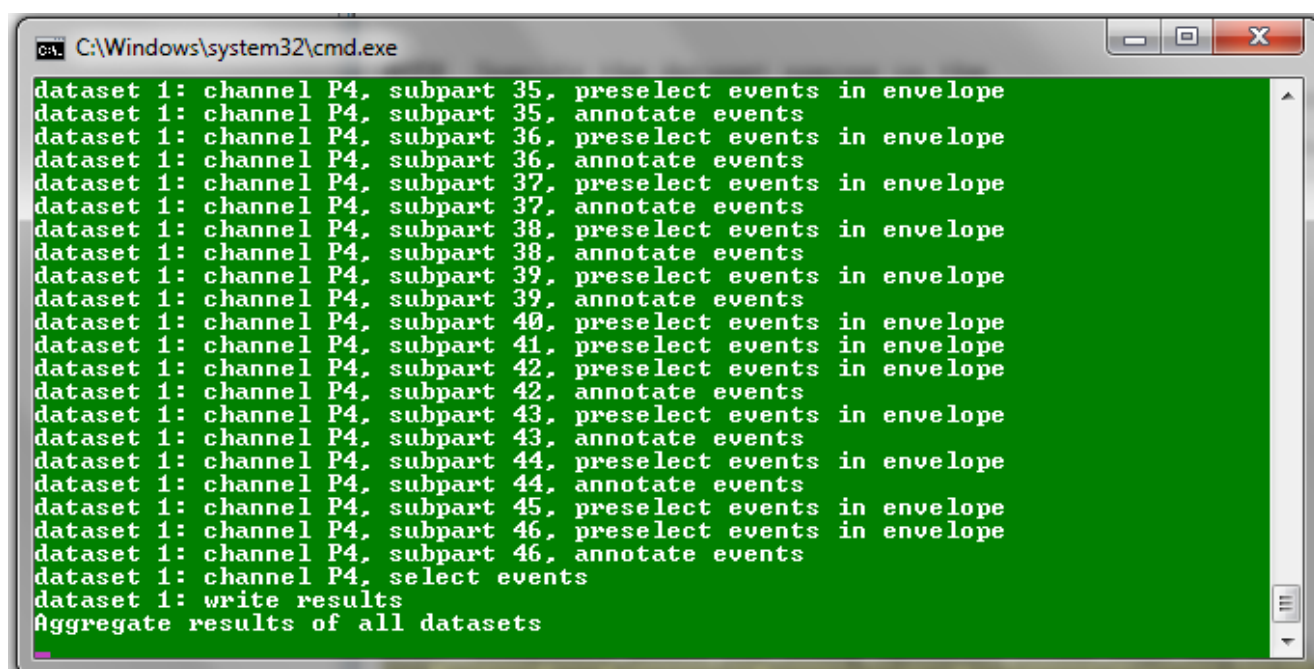
**zoom on weak “fast spindle power
peak”**



**close “slow” (frontal) and “fast”
(centro-parietal) spindle power
peaks**



Command line output



```
C:\Windows\system32\cmd.exe
dataset 1: channel P4, subpart 35, preselect events in envelope
dataset 1: channel P4, subpart 35, annotate events
dataset 1: channel P4, subpart 36, preselect events in envelope
dataset 1: channel P4, subpart 36, annotate events
dataset 1: channel P4, subpart 37, preselect events in envelope
dataset 1: channel P4, subpart 37, annotate events
dataset 1: channel P4, subpart 38, preselect events in envelope
dataset 1: channel P4, subpart 38, annotate events
dataset 1: channel P4, subpart 39, preselect events in envelope
dataset 1: channel P4, subpart 39, annotate events
dataset 1: channel P4, subpart 40, preselect events in envelope
dataset 1: channel P4, subpart 41, preselect events in envelope
dataset 1: channel P4, subpart 42, preselect events in envelope
dataset 1: channel P4, subpart 42, annotate events
dataset 1: channel P4, subpart 43, preselect events in envelope
dataset 1: channel P4, subpart 43, annotate events
dataset 1: channel P4, subpart 44, preselect events in envelope
dataset 1: channel P4, subpart 44, annotate events
dataset 1: channel P4, subpart 45, preselect events in envelope
dataset 1: channel P4, subpart 46, preselect events in envelope
dataset 1: channel P4, subpart 46, annotate events
dataset 1: channel P4, select events
dataset 1: write results
Aggregate results of all datasets
```

**Parameter File in Text editor
(spindle detection)**

```
SpindlesParam_short.txt - Editor
Datei Bearbeiten Format Ansicht ?
## REQUIRED,,
ChannelsofInterestFileName,ChannelsofInterest_short.txt,Filename of file containing comma seperated ch
CenterFrequenciesFileName,CenterFrequencies_fast_spindles_short.txt,Filename of file containing one ce
sleepStagesOfInterest,SWS S2,sleep stages of interest to be analysed possible values are in unique sub
SDmethod,respectivechan,Method for aggregating standard deviation (SD) possible is meanoverchan or val
EnvelopeMethod,smoothedRMSwd,the method for creating the envelope either hilbertEnv for the absolute v
factorSDbeginEnd,1.5,Factor in standard deviations for threshold of the signal for smoothed RMS signa
factorSDcriterion,1.5,Factor in standard deviations for threshold of the signal for smoothed RMS signa
preCenterFreqFilterTo_FpassLeft,1,Left power band boundary (left pass band edge or cut-off frequen
postCenterFreqFilterTo_FpassRight,1,Right power band boundary (right pass band edge or cut-off frequen
MinDetectionLength,0.5,Minimal time within detection criteria in seconds i.e. RMS above threshold defa
MaxDetectionLength,3,Maximal time within detection criteria in seconds i.e. RMS above threshold defaul
## OPTIONAL,,
AVGoverChannels,no,Average over prefiltered channels either yes or no default no
MergeEventsInProximitywithinDetectionMargins,0,proximity of boundaries of events in seconds in order t
MinAbsoluteDownToUpPeakPotential,0,Minimum absolute potential difference to select as valid event (i.e
MaxAbsoluteDownToUpPeakPotential,200,Maximum absolute potential difference to select as valid event (i
UseAbsoluteEnvelopeThreshold,no,If absolute positive envelope threshold for all channels should be us
AbsoluteEnvelopeThresholdBeginEnd,4,4,Abosolute positive envelope potential threshold for all channels f
AbsoluteEnvelopeThresholdCriterion,4,Abosolute positive envelope potential threshold for all channels f
FrqOfSmplwished,100,Frequency to analyse per second/Hz note data will be downsampled after filtering t
DataSetswhich,all,Datasets to be processed either all or subset if subset then DataSetsNumbers is used
DataSetsNumbers,1 2,The line numbers of the Datasets to be processed if Datasetswich parameter is set
## ADVANCED,,
RMStimewndw,0.2,Time window for RMS in seconds default 0.2
MovAvgTimewndw,0.2,Time window for moving average in smoothing RMS in seconds default 0.2
PreDownSampleHighPassFilter_FpassLeft_or_F3dBcutoff,0.5,prefilter frequency before downsampling. if 0
MinDetectionFrequency_FpassLeft,4,Left power band boundary (left pass band edge) for center frequen
MaxDetectionFrequency_FpassRight,100,Right power band boundary (right pass band edge) for center frequ
## NEW,,
OverwriteGlobalThresholdsAndUseIndividualDatasetEnvelopeThresholds,no,determine if the Threshold Criteri
IndividualDatasetEnvelopeThresholdsFileName,SpindlesIndividualDatasetEnvelopeThresholds.txt,Filename of
```