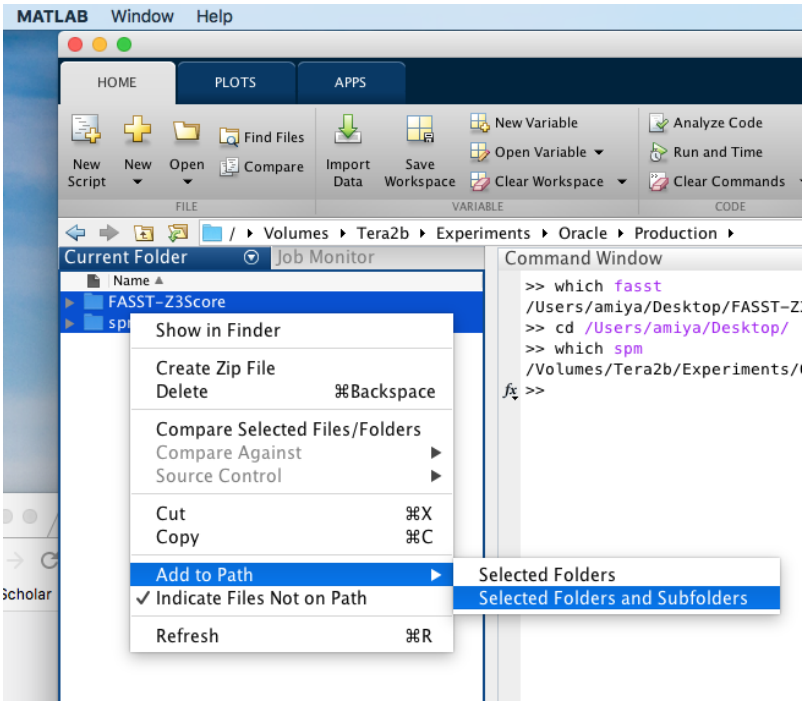
Getting Started with Z3Score-FASST

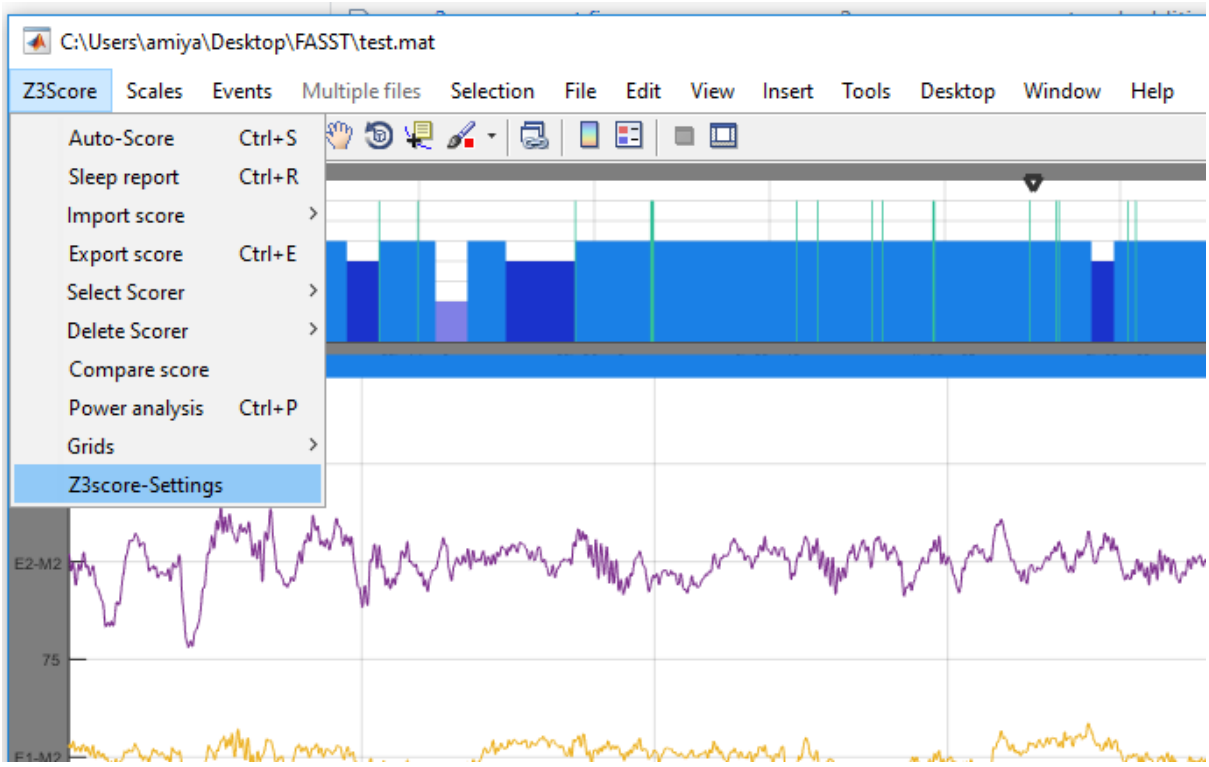
NOTE: FASST supports only one sampling rate for all channels. So please ensure that all channels required for scoring are at the highest sampling rate. Otherwise FASST does a nearest neighbor extrapolation which severely degrades scoring accuracy.

- Download Z3SCORE-FASST https://github.com/neurobittechnologies/FASST-Z3Score
- Download SPM12 http://www.fil.ion.ucl.ac.uk/spm/software/download/
- Add both to Matlab path

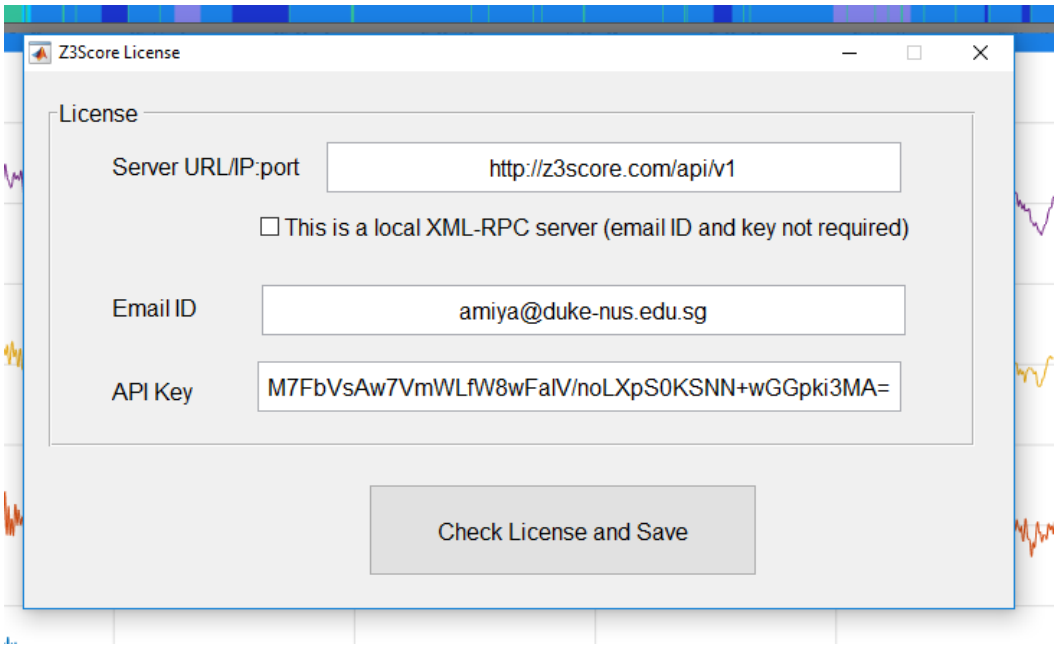


- Type z3score in the Matlab command window and click score sleep

- Open the EDF file you want to score and select the channels you want displayed. You may have to enter the scorer's name and epoch size (make it 30).
- If you are using z3score-fasst for the first time, you will have to setup license. Go to the Z3score-settings menu in the z3score drop down:

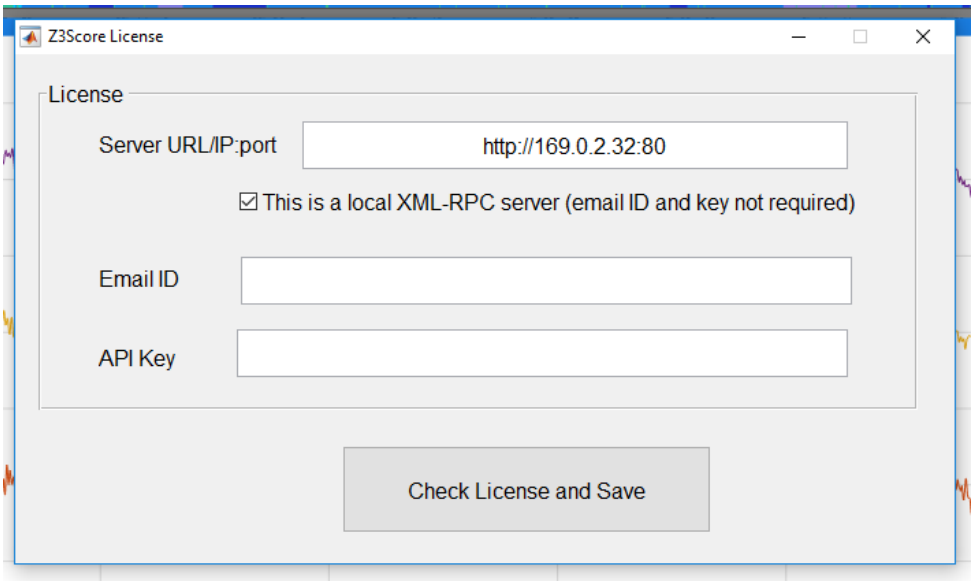


For Cloud based z3score:



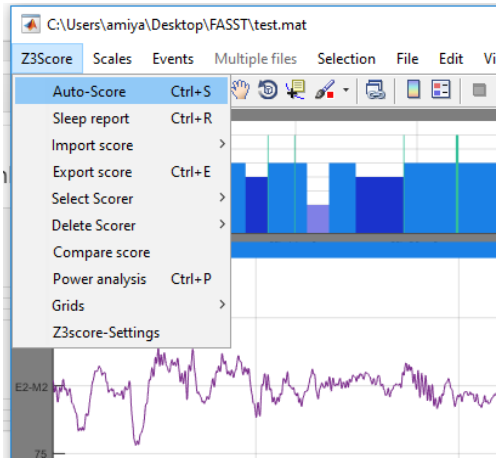
- Server URL should be http://z3score.com/api/v1
- Enter your email address and access key. If you do not have a key, you may request one from contact@neurobit.io
- Once the license key is setup (which needs to be done only once) you can click on Auto Score. You will have to choose the right channels before you click score.

For Local z3score-server:

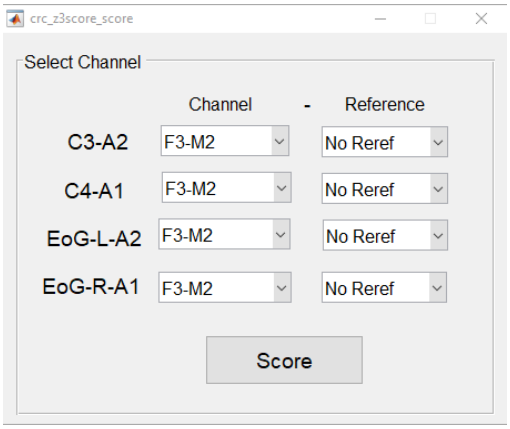


- Server URL/IP:port should be http://z3score-server-ip:80, if the server is located at 169.0.2.32 then enter http://169.0.2.32:80
- Tick “this is a local XML-RPC server”
- You do not need to enter any username or key

How to auto-score



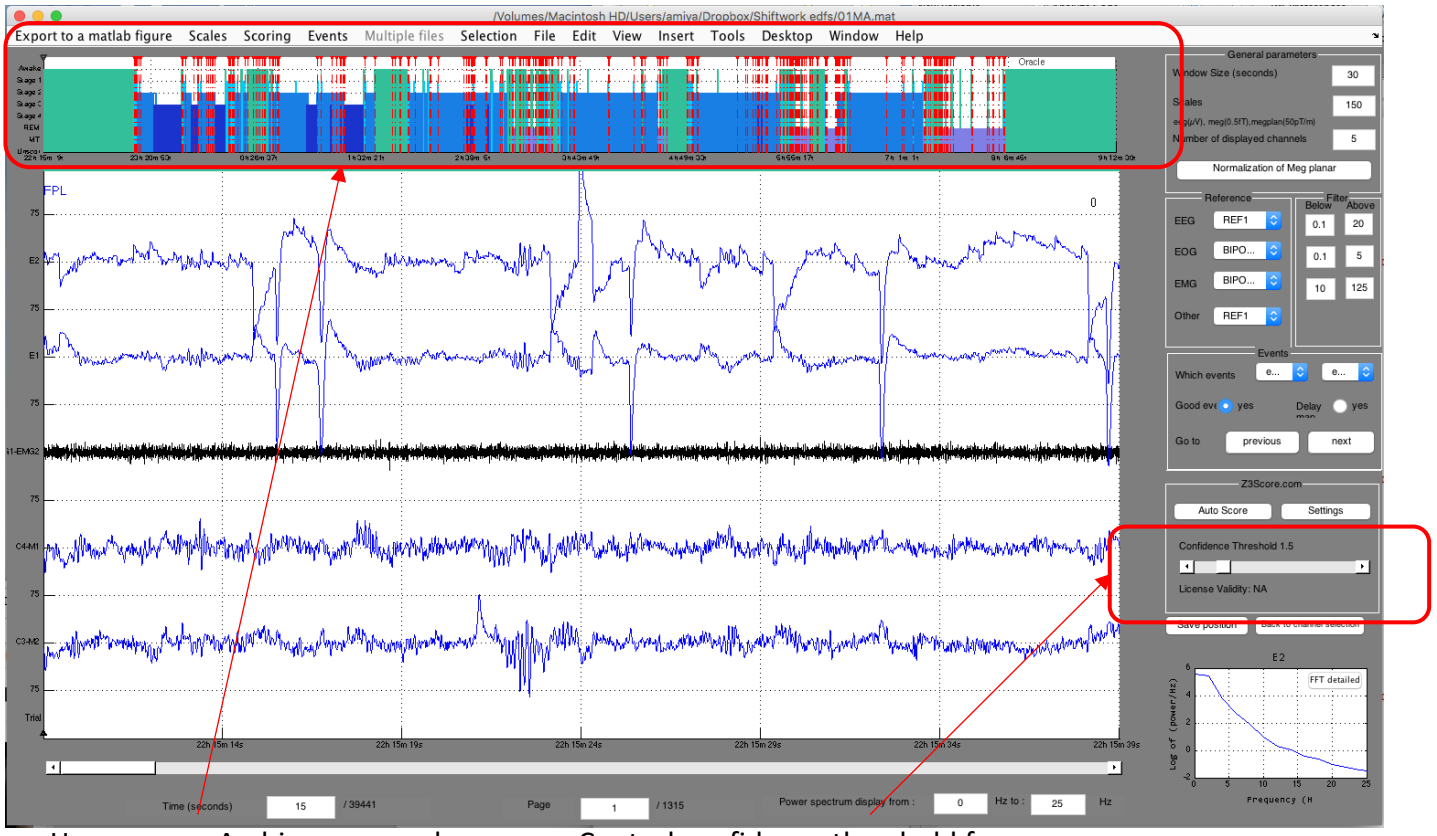
Once z3score is setup (which is a one-time process), click on Auto-Score in the Z3Score drop down. This will open the channel selection menu:



The channel selection menu now supports re-referencing the channels. For Accurate scoring these channels are required:

C3-A2
C4-A1
EoG-Left-A2
EoG-Right-A1

- Once you click score, wait for the data to be converted into CFS format and sent over to the server for scoring.

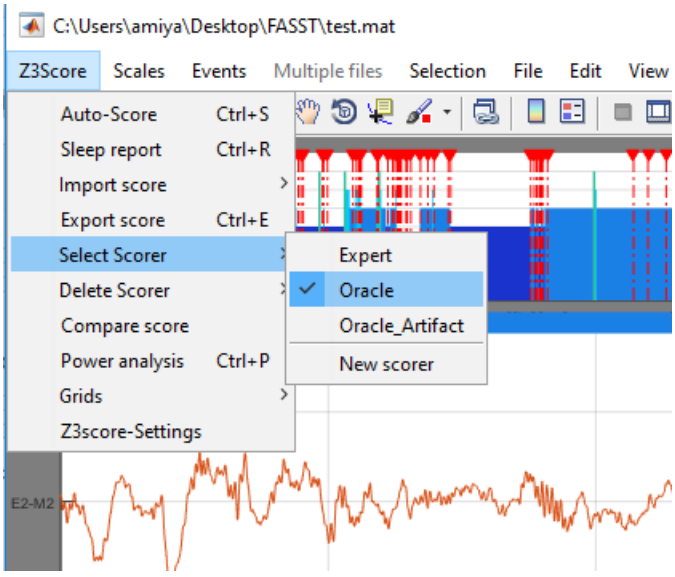


Hypnogram. Ambiguous epochs are marked in red for review.

Control confidence threshold for ambiguous epochs.

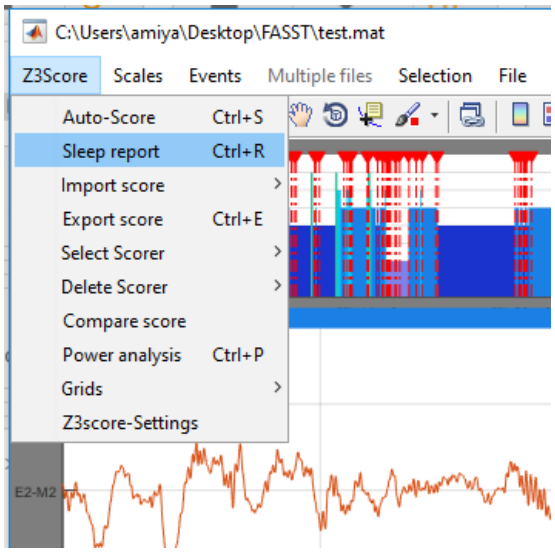
There are two automatic scorers: Oracle and Oracle_Artifact

Oracle uses 30 seconds' epochs to do scoring according to AASM criteria.
Oracle_Artifact uses 5 seconds' epochs and in addition to scoring, marks artefactual epochs.

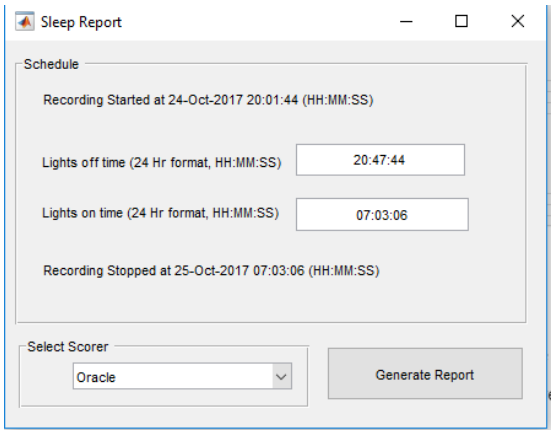


Create Sleep Reports

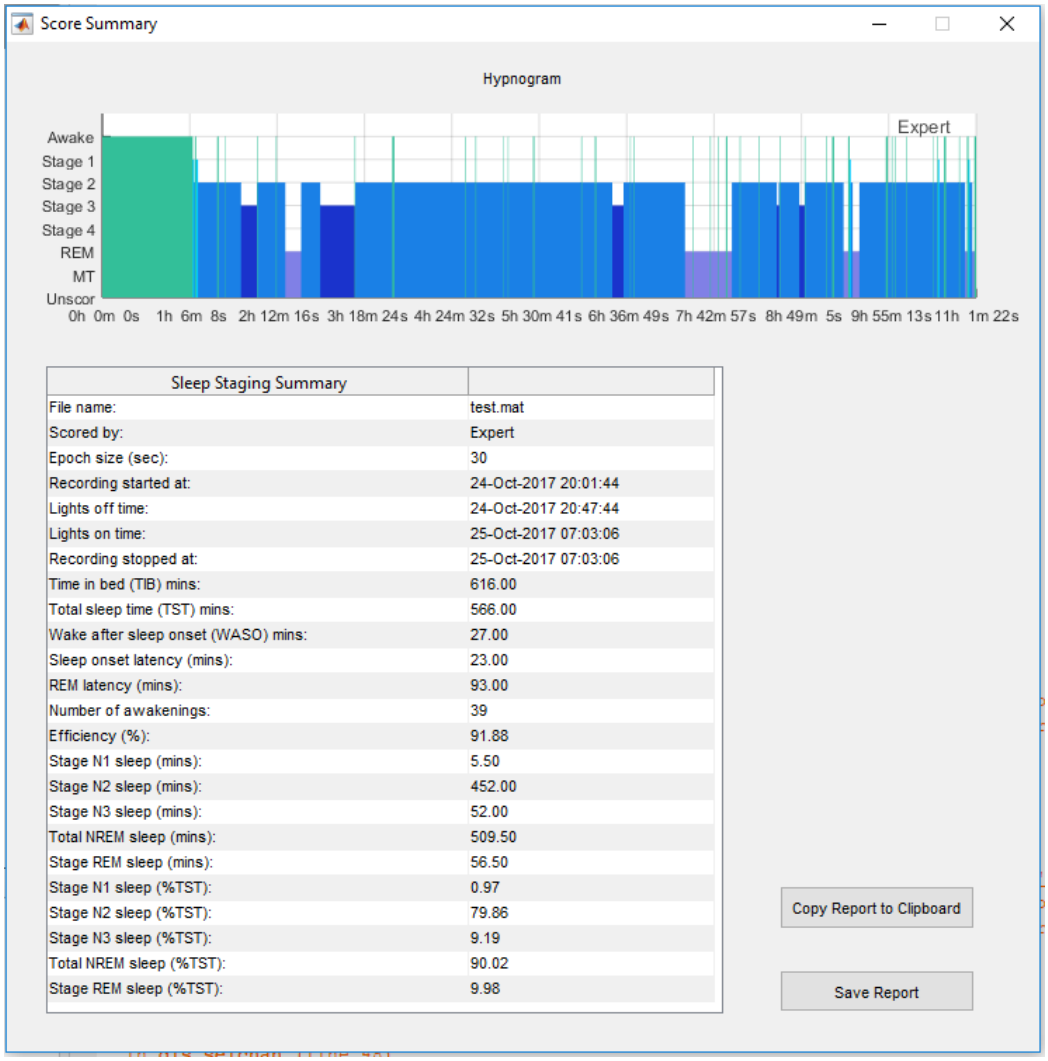
Click Sleep report from the Z3Score drop down menu



You will have to enter the lights off and lights on time manually (this is a one time process, Z3Score-FASST remembers the settings next time you open the same datafile). For your reference, the recording start and stop time are shown.



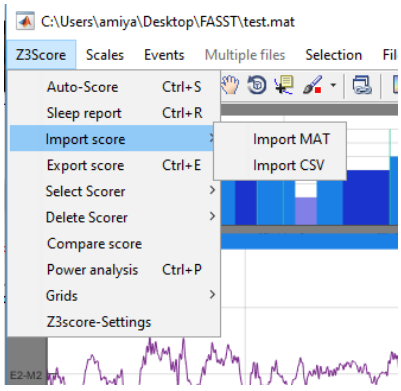
Select the sleep scorer you want to generate the report for and click generate report.



Sleep Staging Summary	
File name:	test.mat
Scored by:	Expert
Epoch size (sec):	30
Recording started at:	24-Oct-2017 20:01:44
Lights off time:	24-Oct-2017 20:47:44
Lights on time:	25-Oct-2017 07:03:06
Recording stopped at:	25-Oct-2017 07:03:06
Time in bed (TIB) mins:	616.00
Total sleep time (TST) mins:	566.00
Wake after sleep onset (WASO) mins:	27.00
Sleep onset latency (mins):	23.00
REM latency (mins):	93.00
Number of awakenings:	39
Efficiency (%):	91.88
Stage N1 sleep (mins):	5.50
Stage N2 sleep (mins):	452.00
Stage N3 sleep (mins):	52.00
Total NREM sleep (mins):	509.50
Stage REM sleep (mins):	56.50
Stage N1 sleep (%TST):	0.97
Stage N2 sleep (%TST):	79.86
Stage N3 sleep (%TST):	9.19
Total NREM sleep (%TST):	90.02
Stage REM sleep (%TST):	9.98

You can click the copy report button to copy the full table and paste it in Excel or any other spreadsheet program. You can also save the report as a CSV file.

You can easily import or export sleep scores using the import/export button from the Z3Score drop down:



If you have any questions contact us at contact@neurobit.io