NPCindex | QEEGhome

QEEG Clinical Report

BrainLens V0.4

Report Description

Personal & Clinical Data

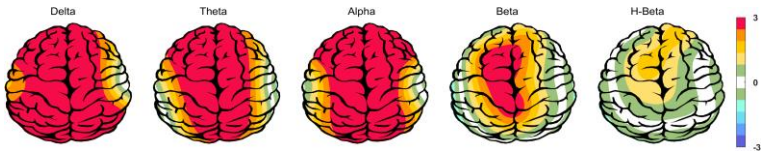
Name	Morteza Khodai	Date of Recording	2025-03-15
Date of Birth - Age	1981-10-04 - 43.6	Gender	Male
Handedness(R/L)	Right	Source of Referral	Dr.tabatabai
Initial Diagnosis	Drug Abuse		
Current Medication	-		

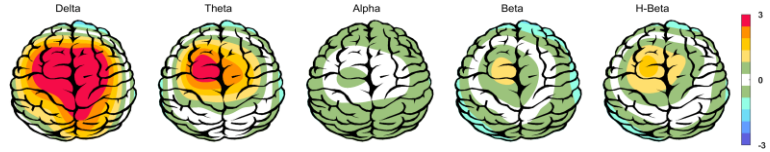
Dr.tabatabai

Summary Report

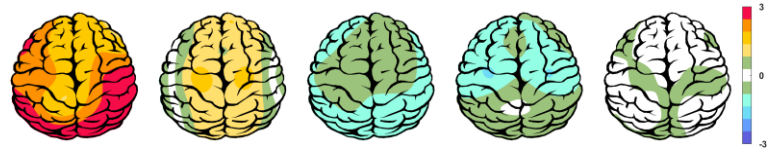
EEG Quality

Z-score Information





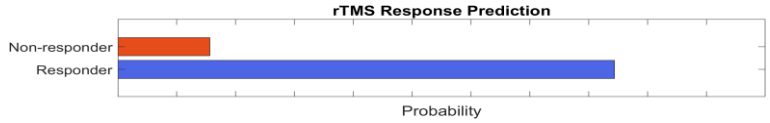
Absolute Power



Relative Power

Arousal Level

TMS Responsibility



APF

Posterior APF-EC= 09.38

Posterior APF-EO= 10.12

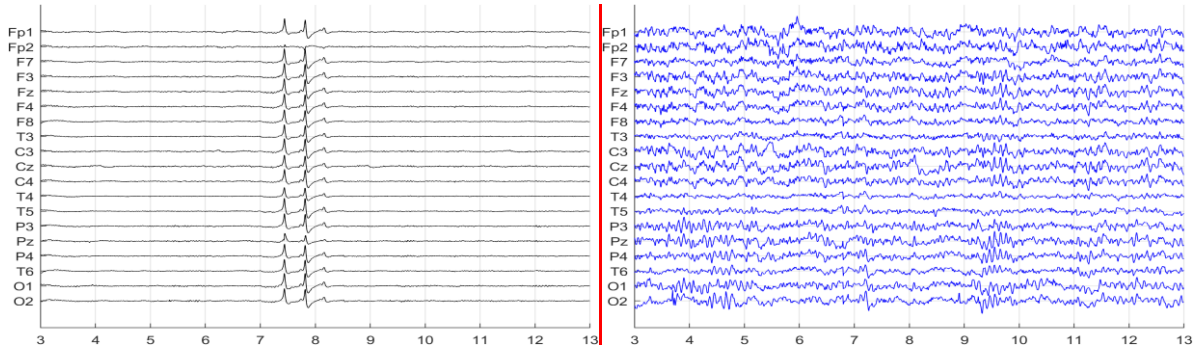
To investigate QEEG-based predicting medication response, please refer to Page. .

Morteza Khodai\Dr.tabatabai

Morteza Khodai\Dr.tabatabai

Denoising Information (EC)

Raw EEG **Denoised EEG**

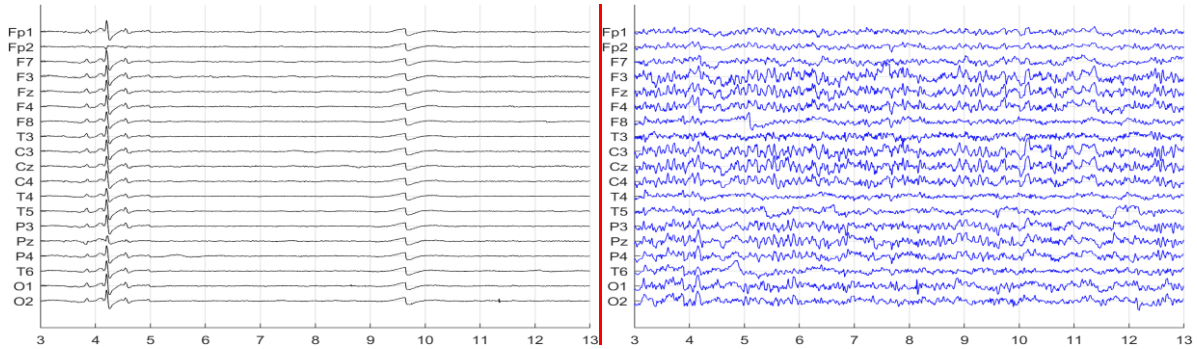


Flat Channels **Rejected Channels**

Number of Eye and Muscle Elements				Low Artifact Percentage
Eye	0	Muscle	0	
Total Artifact Percentage				High Artifact Percentage
EEG Quality	good			Total Recording Time Remaining 160.54 sec

Denoising Information (EO)

Raw EEG **Denoised EEG**

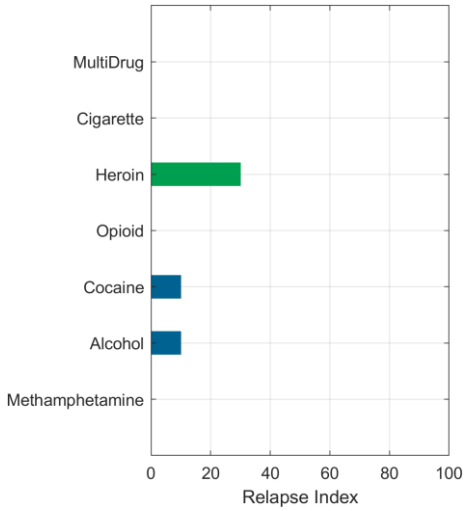


Flat Channels **Rejected Channels**

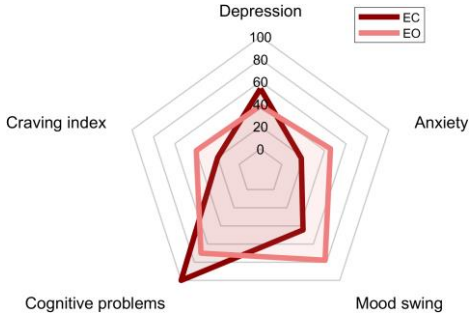
Number of Eye and Muscle Elements				Low Artifact Percentage
Eye	2	Muscle	0	
Total Artifact Percentage				High Artifact Percentage
EEG Quality	good			Total Recording Time Remaining 138.15 sec

Pathological Assessment for Substance Abuse

Relapse Index

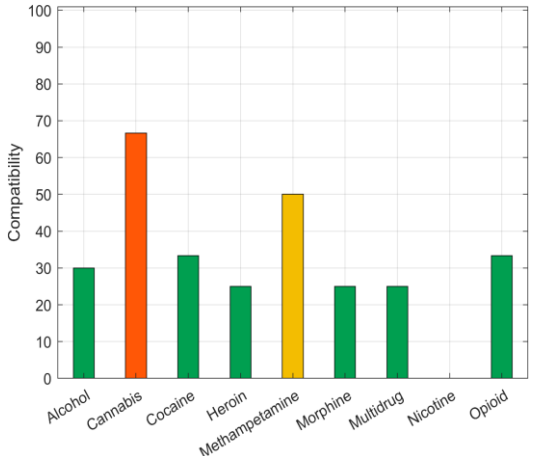


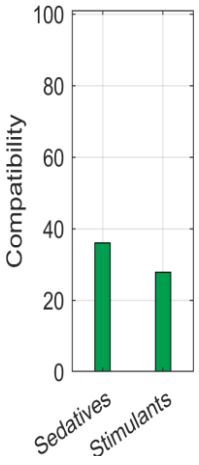
Comorbid Symptoms



The Relapse graph shows the relapse index based on a combination of EEG neuromarkers. If the type of substance your patient uses is included in this chart, you can read its relapse rate. **The condition for using this chart is that the patient consumes each substance specified in the chart.** If your patient does not consume each of the substances specified in the chart, the index shown is not valid.

Subsance Abuse Compatibiliy





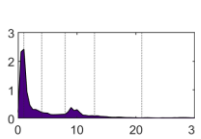
The Compatibility graph shows the compatibility of the patient's EEG neuromarkers and the alternations that the specific substance causes in the EEG. In other words, this chart indicates that your patient has how percentage of validated neuromarkers due to the use of specific substances.

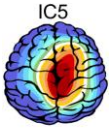
Using this chart, you can figure out how substances have affected EEG and if multiple drugs were used, which one has the most dominant effect. **If your patient does not consume each of the substances specified in the chart, the index shown is not valid.**

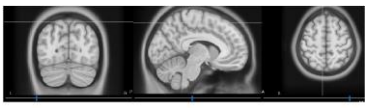
Functional Problems Source Detection

Eyes Closed

Freq = 1 Hz

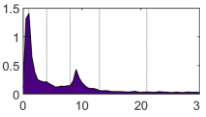


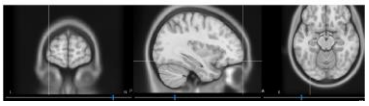




Brodmann area 7
Precuneus

Freq = 1 Hz

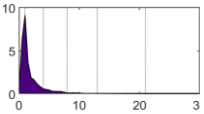


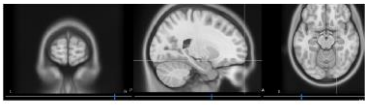


Brodmann area 10
Superior Frontal Gyrus

Eyes Open

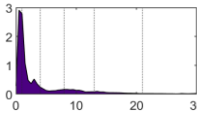
Freq = 1 Hz

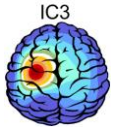


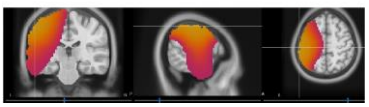


Brodmann area 10
Medial Frontal Gyrus
Superior Frontal Gyrus

Freq = 0.5 Hz

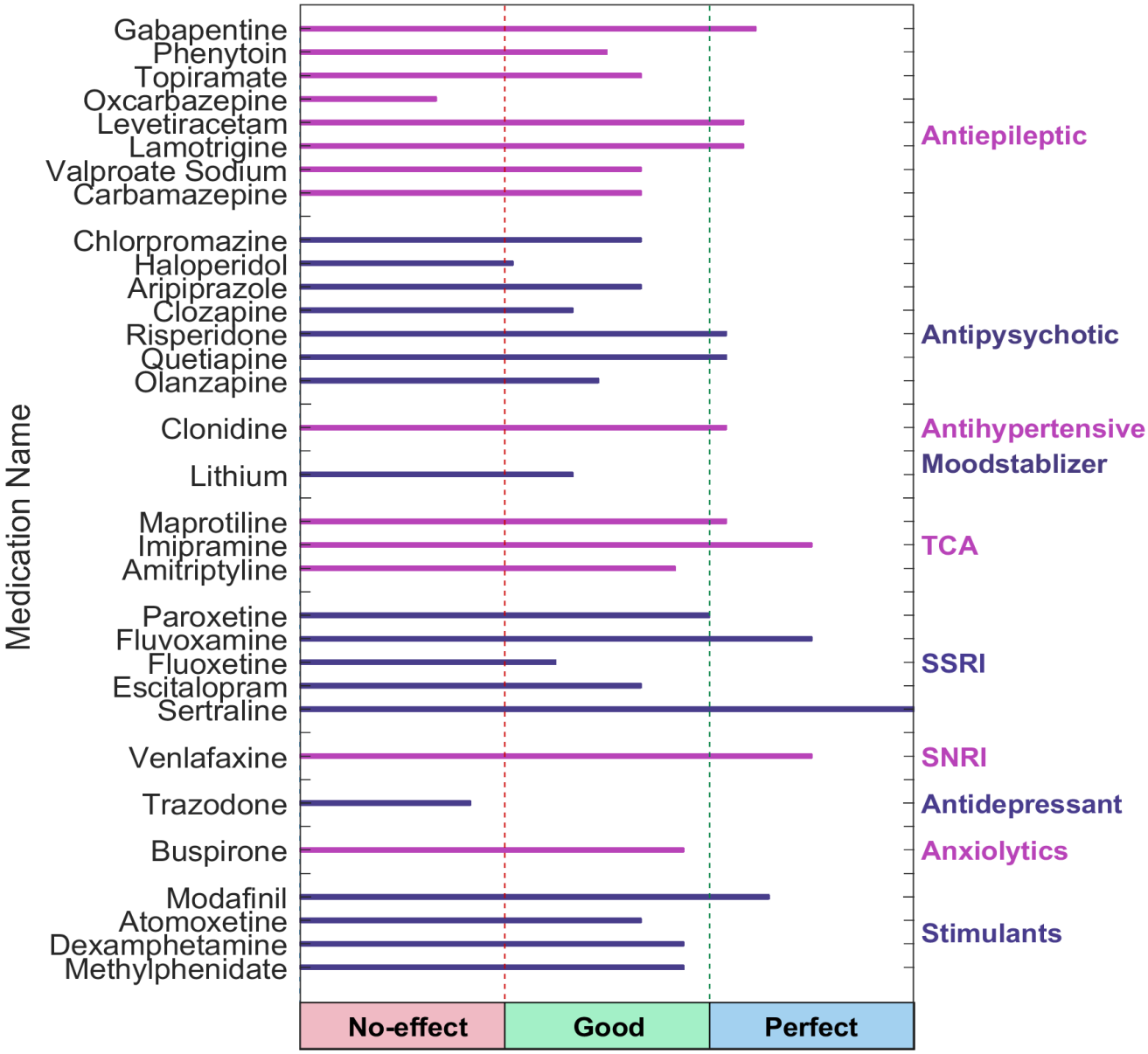






Brodmann area 40
Postcentral Gyrus

QEEG based predicting medication response



Explanation

These two tables can be considered the most important finding that can be extracted from QEEG. To prepare this list, the NPCIndex Article Review Team has studied, categorized, and extracted algorithms from many authoritative published articles on predict medication response and Pharmaco EEG studies. These articles are published between 1970 and 2021. The findings extracted from this set include 85 different factors in the raw band domains, spectrum, power, coherence, and loreta that have not been segregated to avoid complexity, and their results are shown in these diagrams. One can review details in NPCIndex.com .

Medication Recommendation

These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables present the indicators reviewed in the QEEG studies and are not a substitute for physician selection.

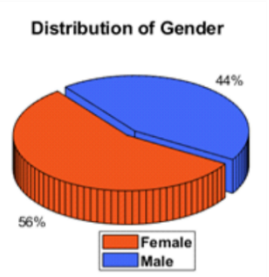
Morteza Khodai\Dr.tabatabai

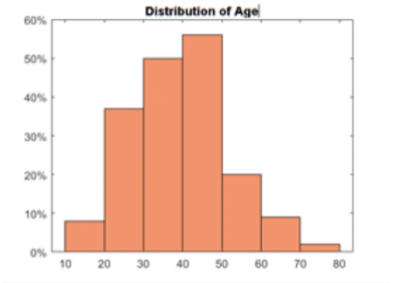
rTMS Response Prediction

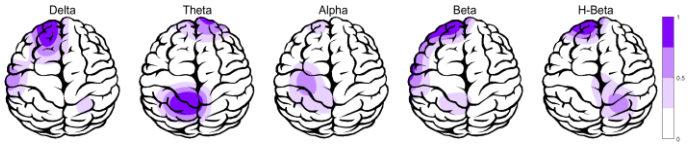
Network Performance

Accuracy: 92.1%
Sensitivity: 89.13%
Specificity: 97.47%

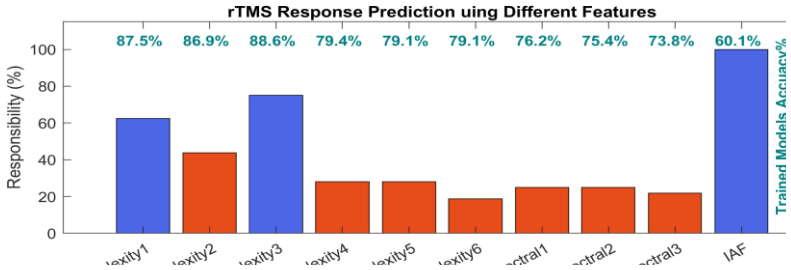
Participants Information



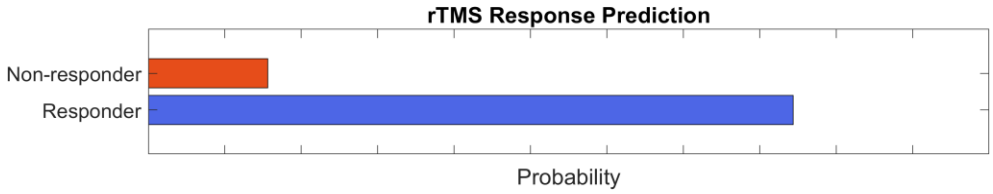




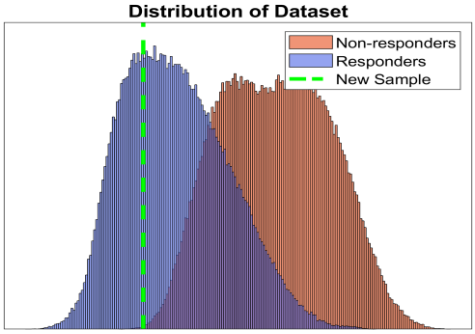
Features Information



Responsibility



Data Distribution

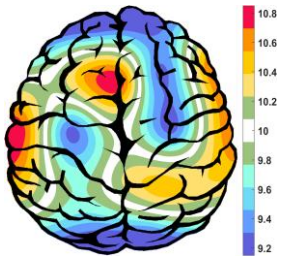


About Predicting rTMS Response

This index was obtained based on machine learning approaches and by examining the QEEG biomarkers of more than 470 cases treated with rTMS. The cases were diagnosed with depression (with and without comorbidity) and all were medication free. By examining more than 40 biomarkers capable of predicting response to rTMS treatment in previous studies and with data analysis, finally 10 biomarkers including bispectral and nonlinear features entered the machine learning process. The final chart can distinguish between RTMS responsive and resistant cases with 92.1% accuracy. This difference rate is much higher than the average response to treatment of 44%, in the selection of patients with clinical criteria, and is an important finding in the direction of personalized treatment for rTMS.

Morteza Khodai\Dr.tabatabai

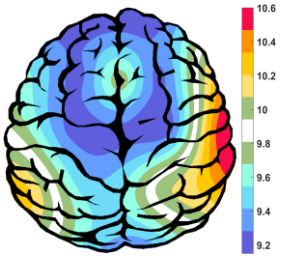
APF(EO)



Frontal APF= 09.25

Posterior APF= 10.12

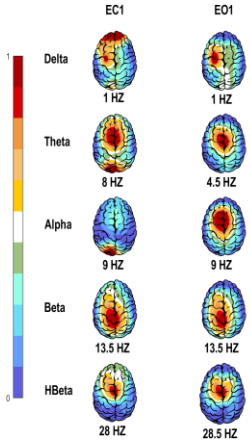
APF(EC)

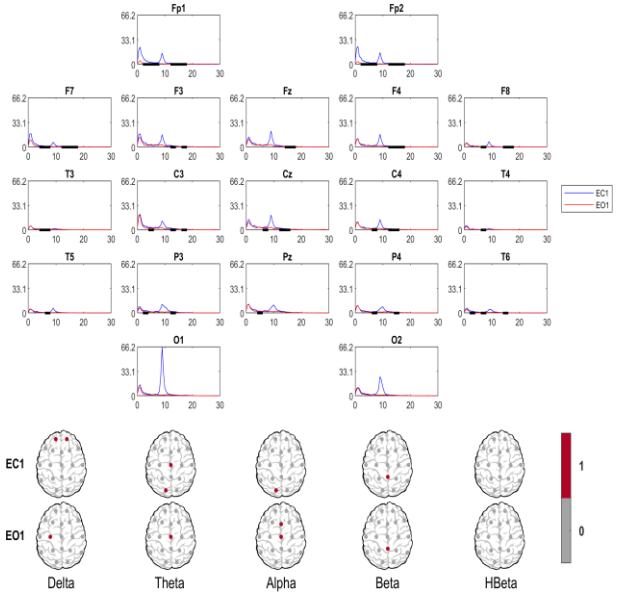


Frontal APF= 09.25

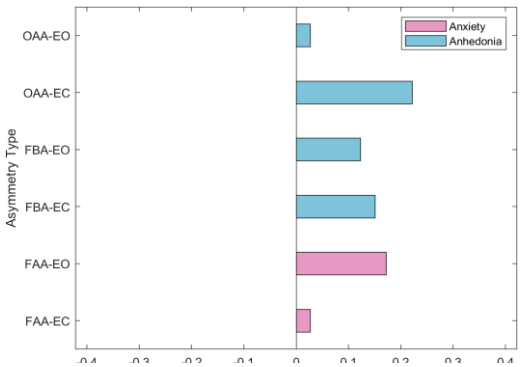
Posterior APF= 09.38

EEG Spectra





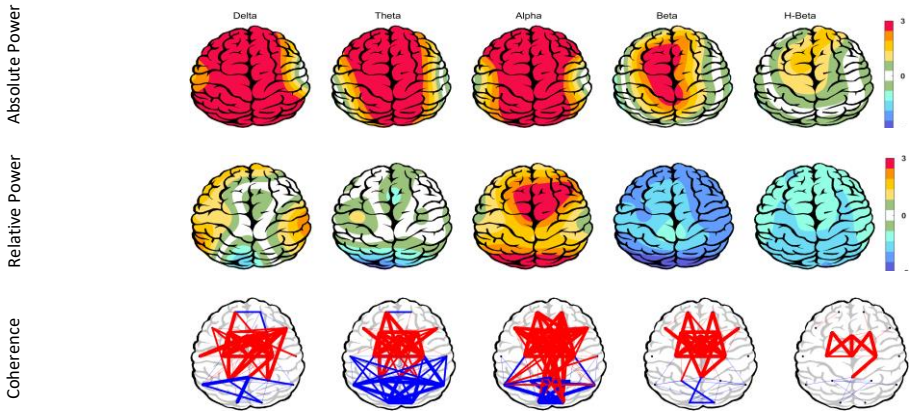
Alpha Asymmetry(AA)



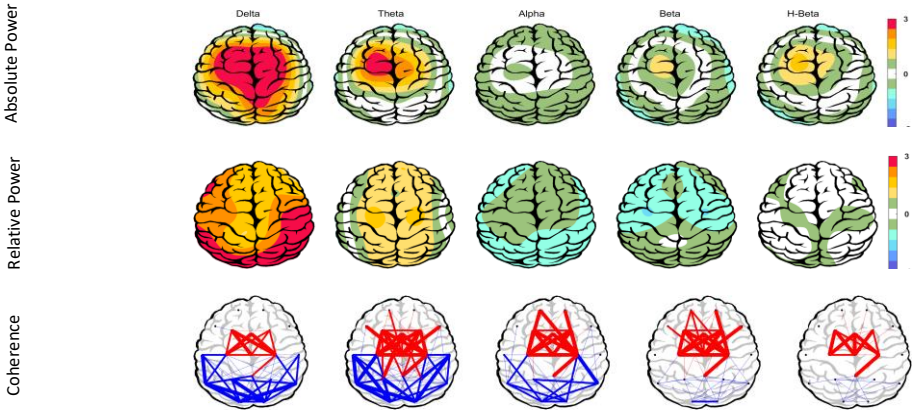
Alpha Blocking

Morteza Khodai\Dr.tabatabai

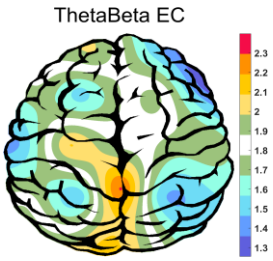
Z Score Summary Information (EC)

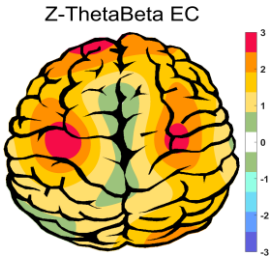


Z Score Summary Information (EO)

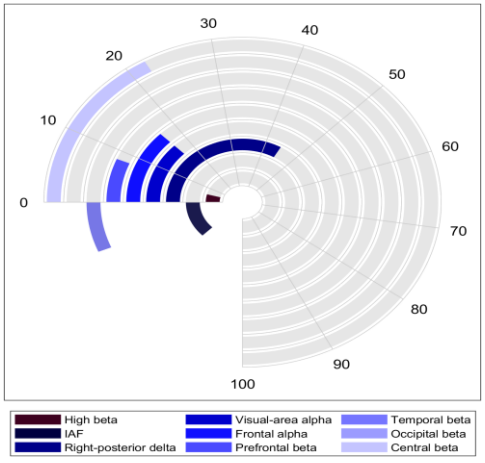


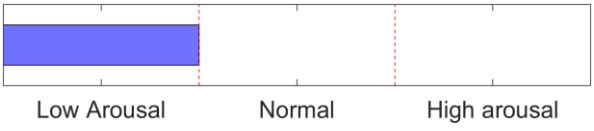
E.C.T/B Ratio (Raw- Z Score)



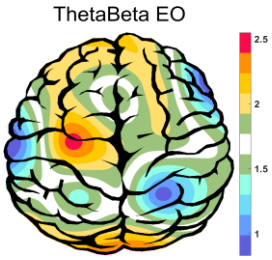


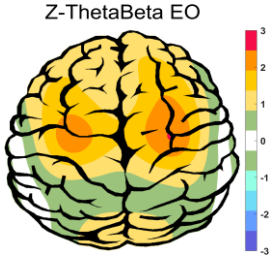
Arousal Level





E.O.T/B Ratio (Raw- Z Score)

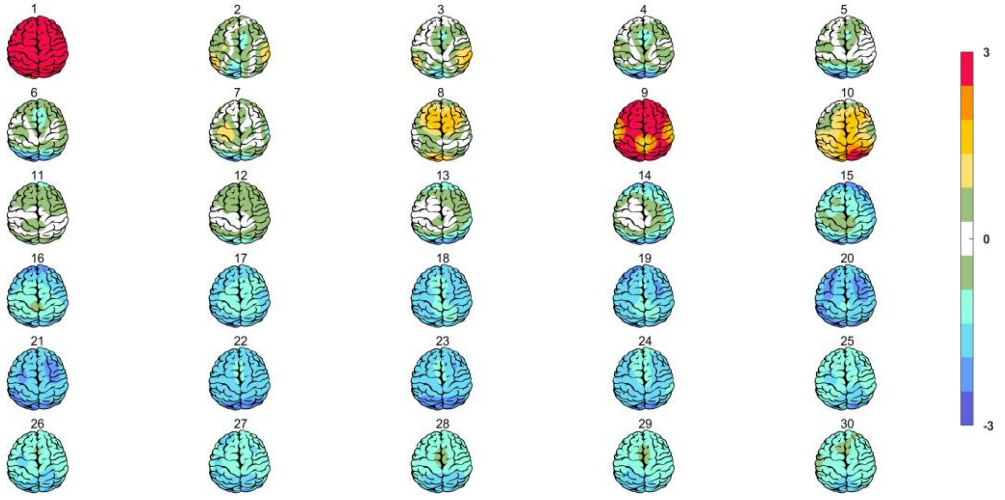




Morteza Khodai\Dr.tabatabai

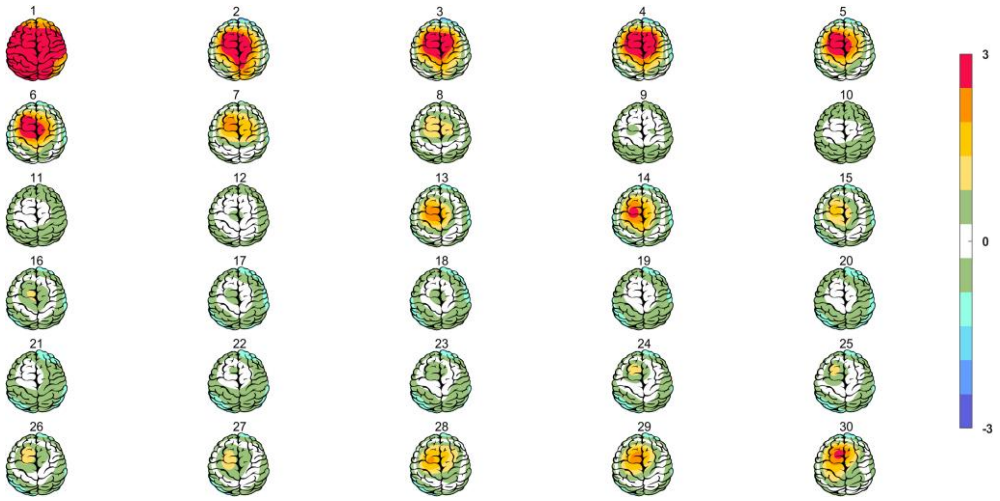
Absolute Power-Eye Closed (EC)

Relative Power-Eye Closed (EC)



Morteza Khodai\Dr.tabatabai

Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)