



QEEG Clinical Report

BrainLens V0.4



Report Description



Personal & Clinical Data

Name	Gholamreza Ahmadi	Date of Recording	2025-04-21
Date of Birth - Age	1957-03-09 - 68.2	Gender	Male
Handedness(R/L)	Right	Source of Referral	Dr Dinarvand
Initial Diagnosis	Reactive Depression		
Current Medication	-		

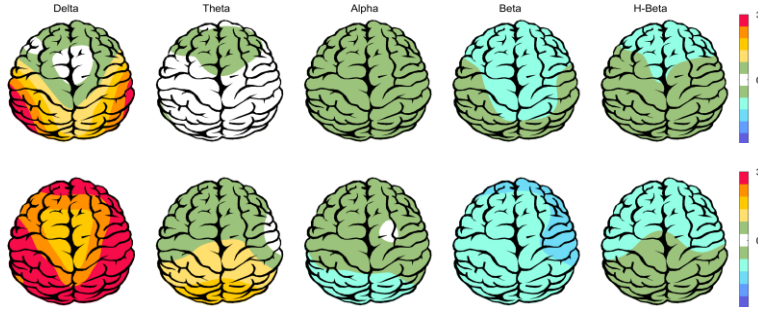
Dr Dinarvand

Summary Report

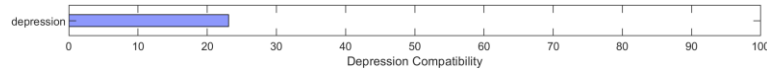
EEG Quality



Z-score Information



Compatibility with Depression



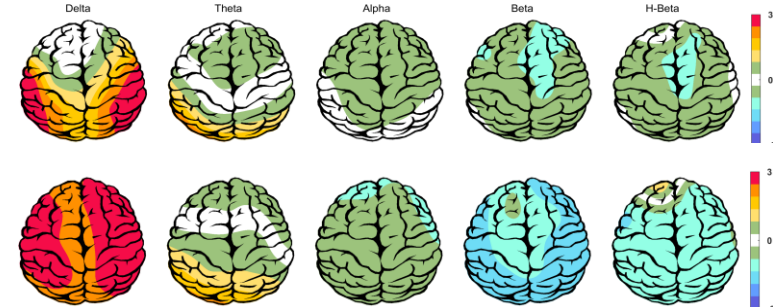
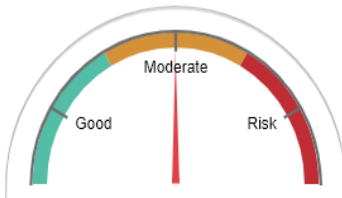
Compatibility with Mood Swing



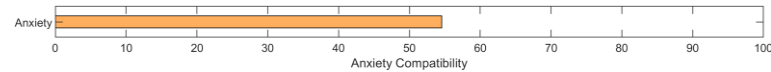
Arousal Level



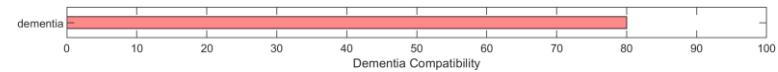
Cognitive Performance



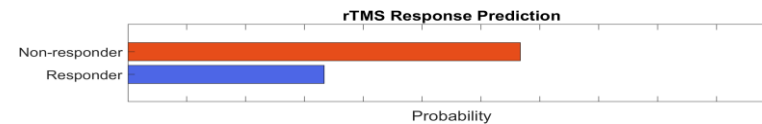
Compatibility with Anxiety



Compatibility with Dementia



TMS Responsibility



APF

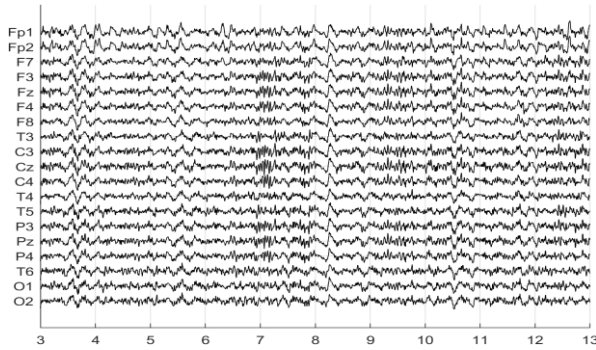
Posterior APF-EC= 09.12

Posterior APF-EO= 10.88

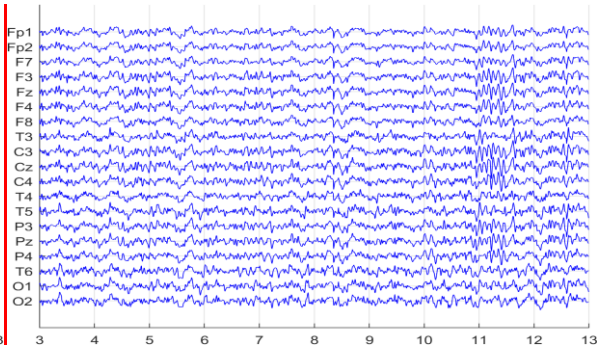
To investigate QEEG-based predicting medication response, please refer to the Report.

Denoising Information (EC)

Raw EEG



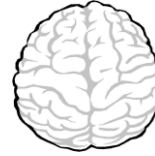
Denoised EEG



Flat Channels



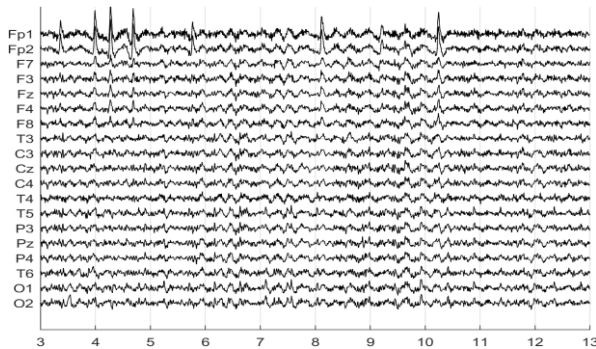
Rejected Channels



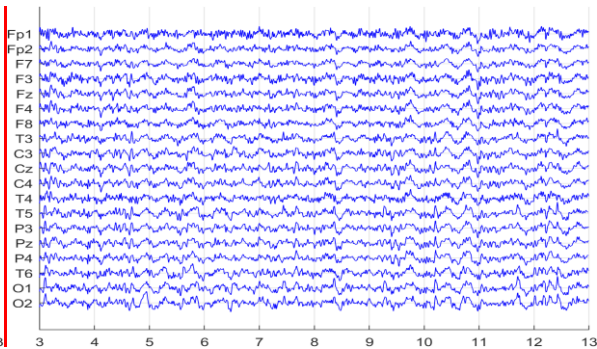
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	3	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	242.06 sec

Denoising Information (EO)

Raw EEG



Denoised EEG



Flat Channels



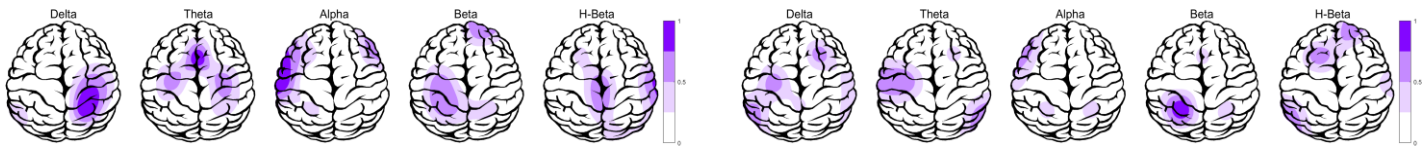
Rejected Channels



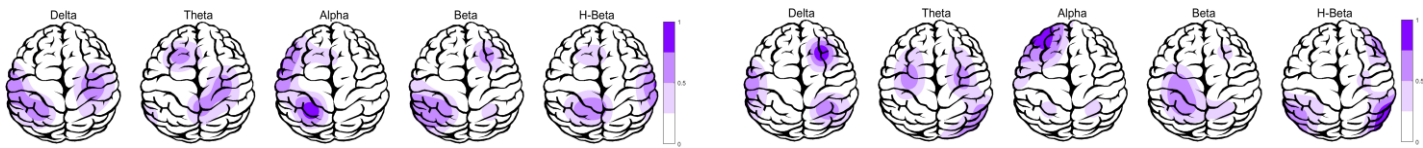
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	2	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	241.38 sec

Pathological assessment for mood disorders and adult ADHD

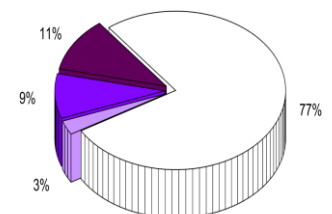
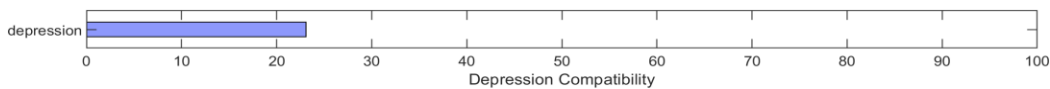
Compare to Mood Disorders Database



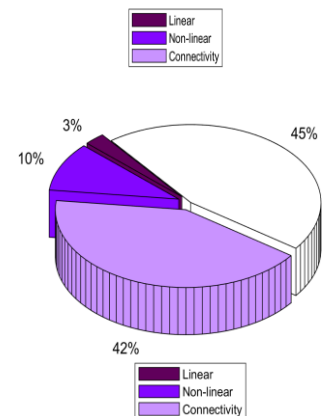
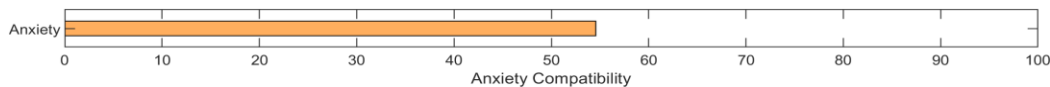
Compare to Adult ADHD Database



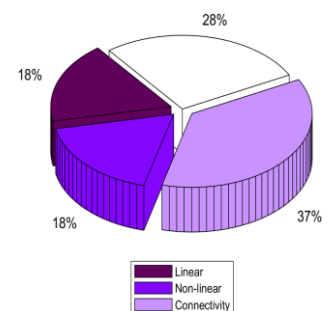
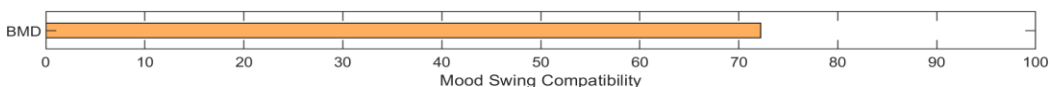
EEG Compatibility with Depression Diagnosis



EEG Compatibility with Anxiety Diagnosis

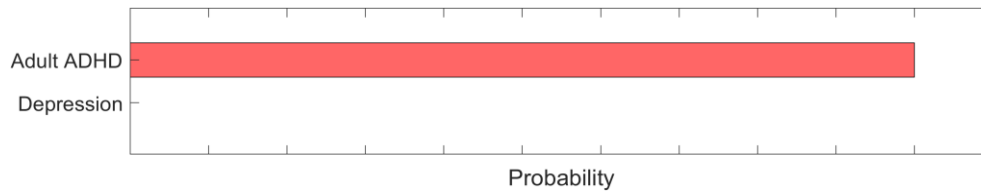


EEG Compatibility with Mood Swing Diagnosis *



* This index can only be investigated if there are symptoms of mood swings (R/O BMD or R/O mood swings).

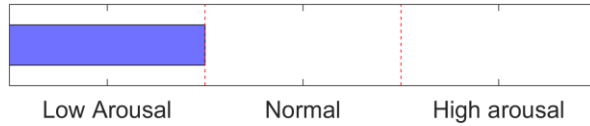
Depression and Adult ADHD Diagnosis Probabiliy



Cognitive Functions Asessment

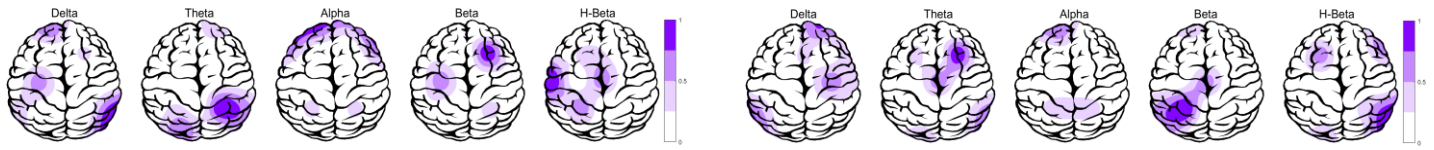


Arousal Level Detection

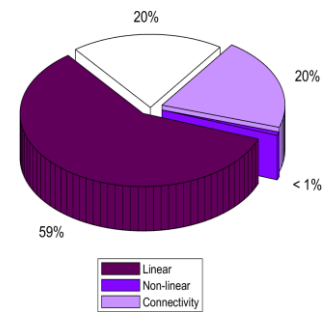
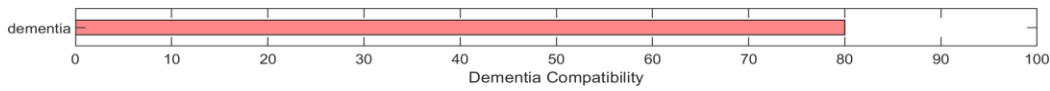


Pathological Assessment for Dementia

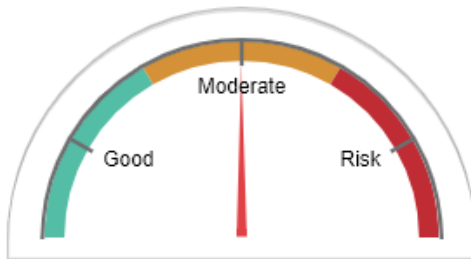
Compare to Dementia Database



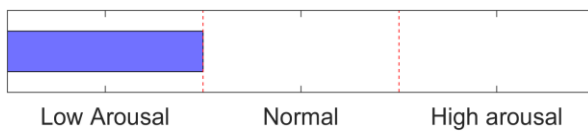
EEG Compatibility with Dementia Diagnosis



Cognitive Functions Assessment



Arousal Level Detection

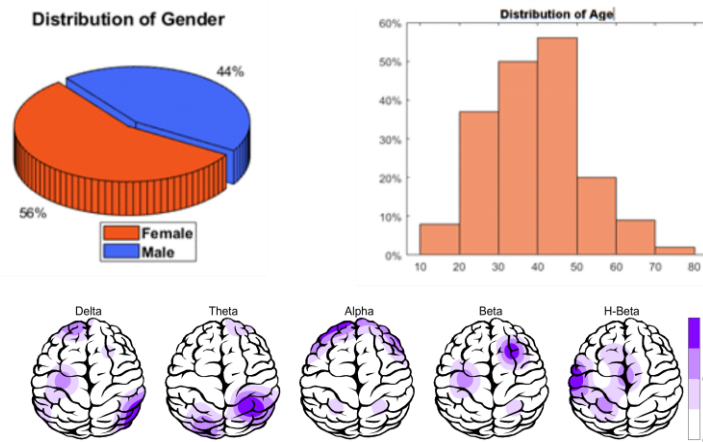


rTMS Response Prediction

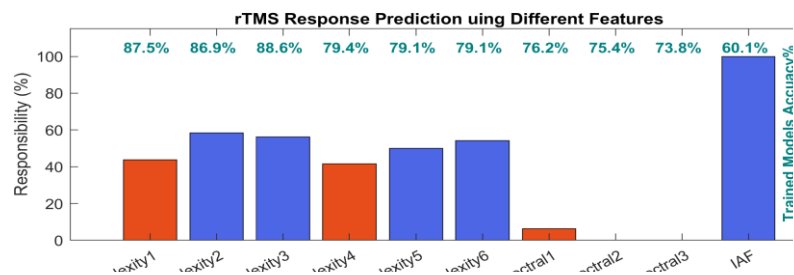
Network Performance

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

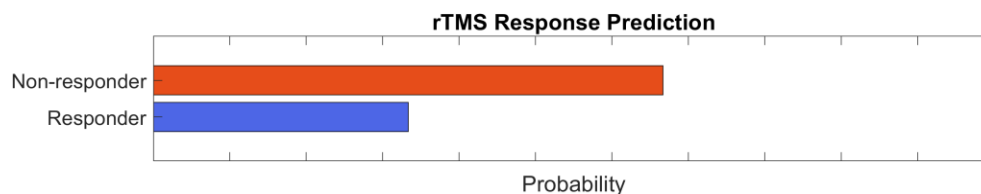
Participants Information



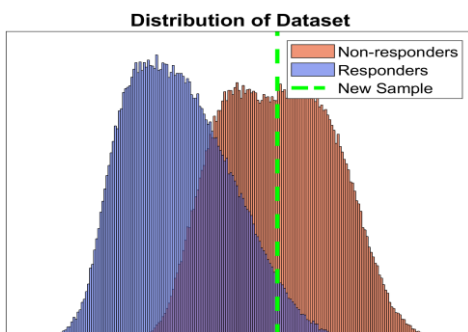
Features Information



Responsibility



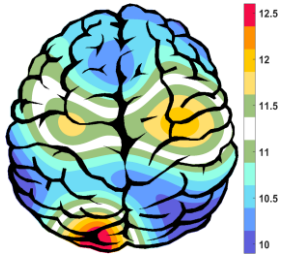
Data Distribution



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.

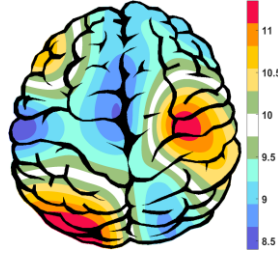
APF(EO)



Frontal APF= 11.58

Posterior APF= 10.88

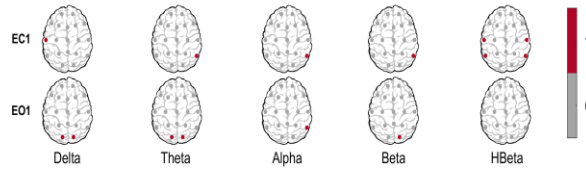
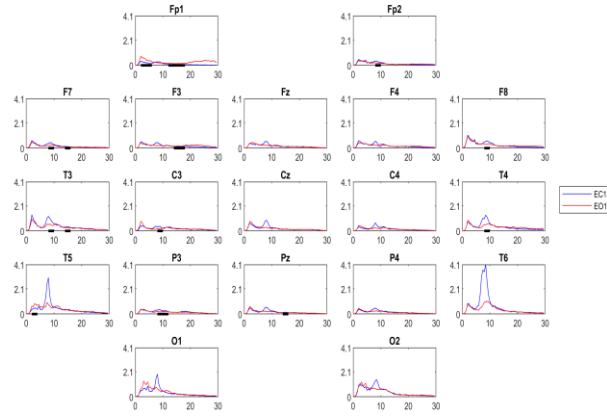
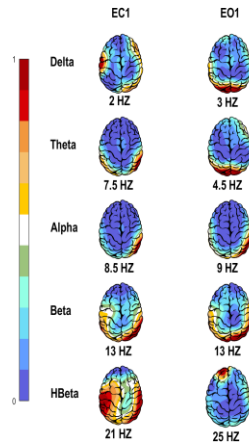
APF(EC)



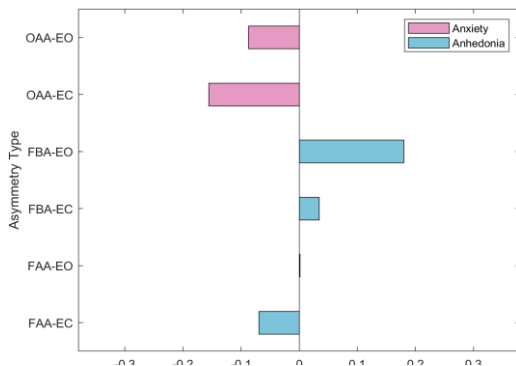
Frontal APF= 10.00

Posterior APF= 09.12

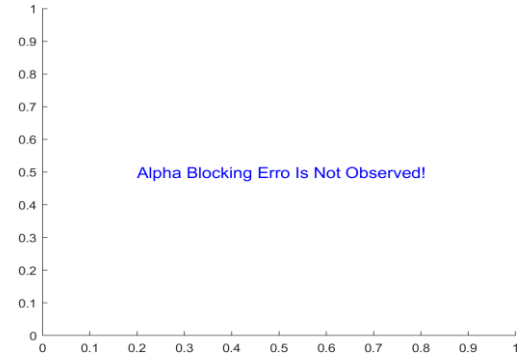
EEG Spectra



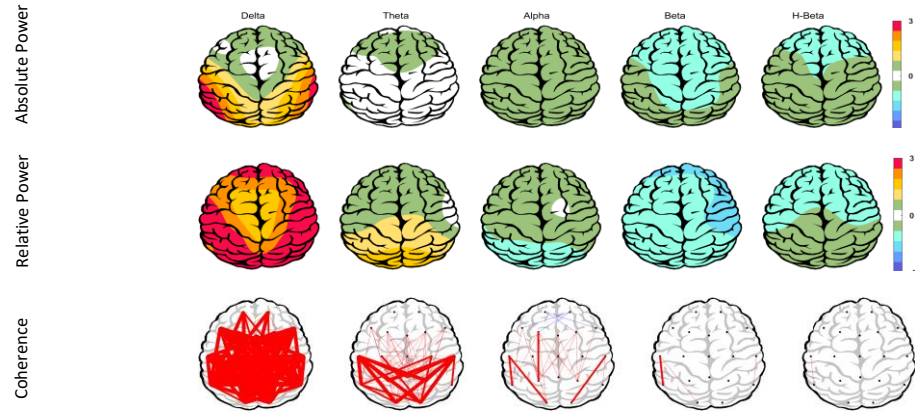
Alpha Asymmetry(AA)



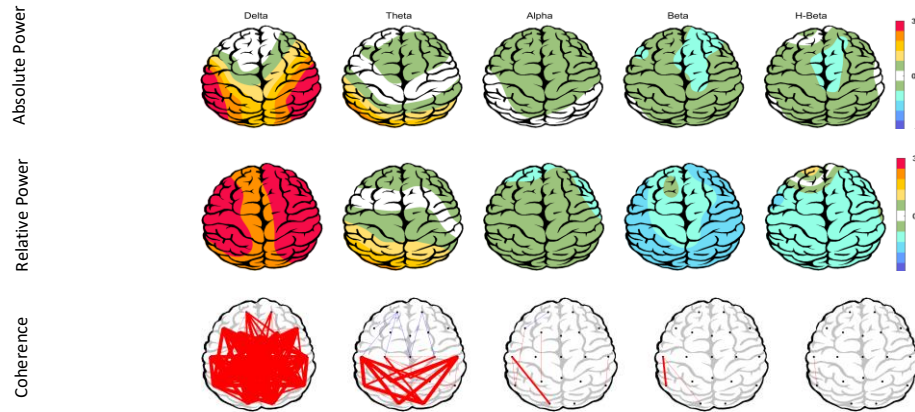
Alpha Blocking



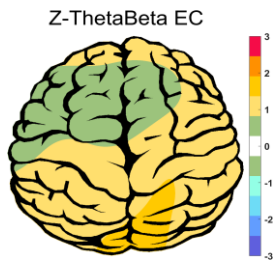
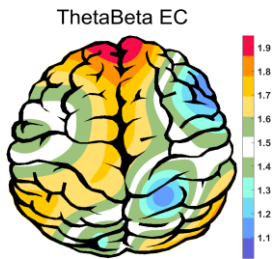
Z Score Summary Information (EC)



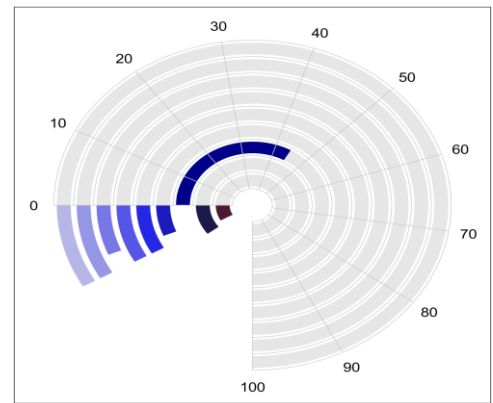
Z Score Summary Information (EO)



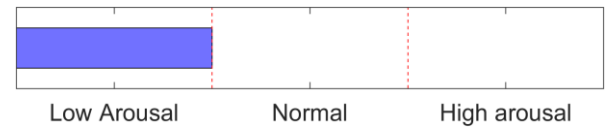
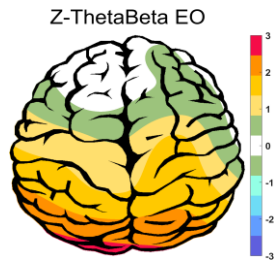
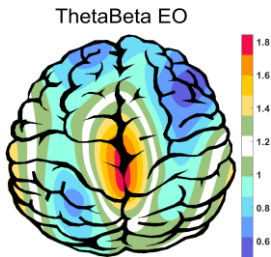
E.C.T/B Ratio (Raw- Z Score)



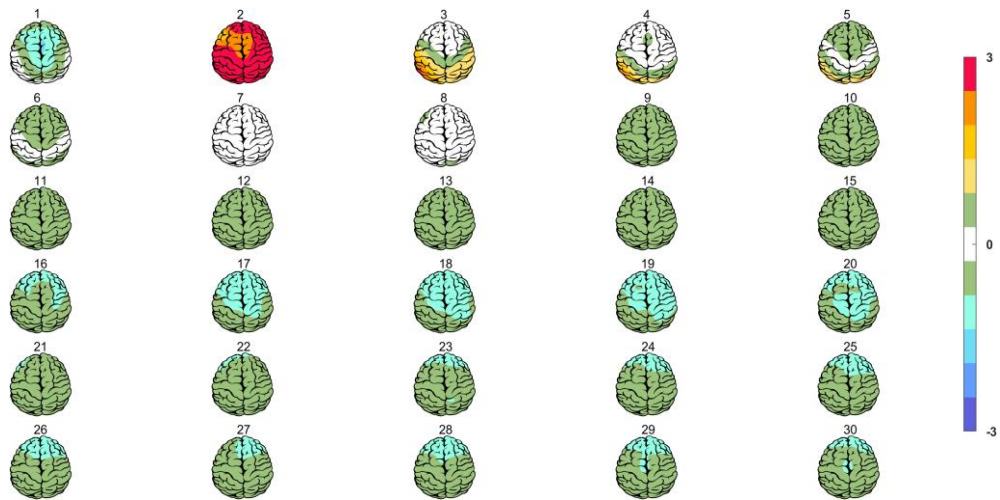
Arousal Level



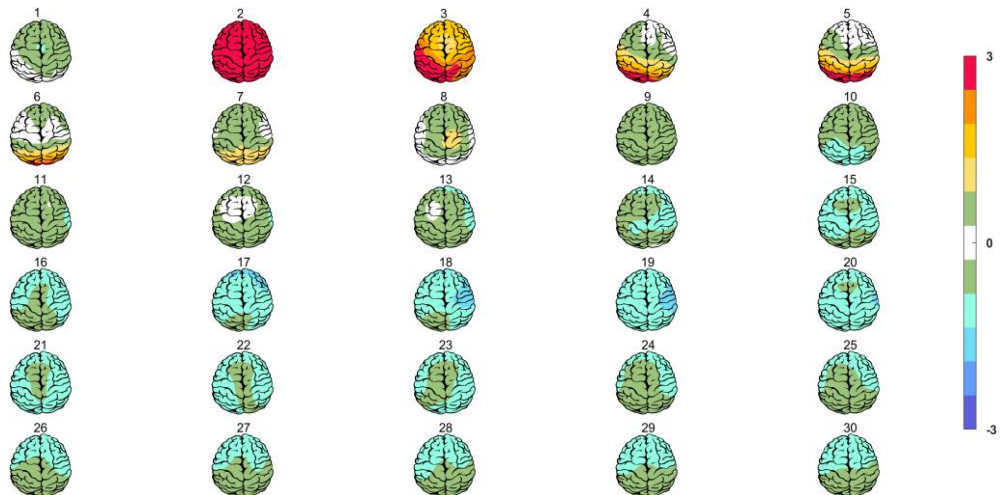
E.O.T/B Ratio (Raw- Z Score)



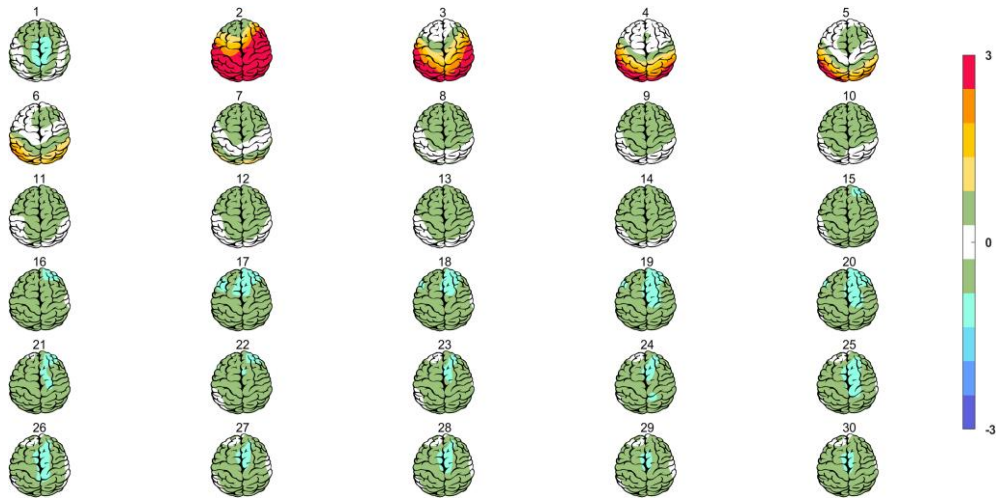
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)

