



QEEG Clinical Report

BrainLens V0.4

Report Description

Personal & Clinical Data

Name	Sahab Khalafi	Date of Recording	25-Feb-2025
Date of Birth - Age	17-Dec-2009 - 15.19	Gender	Male
Handedness(R/L)	Right	Source of Referral	Mr Karami
Initial Diagnosis	Anxiety		
Current Medication	-		

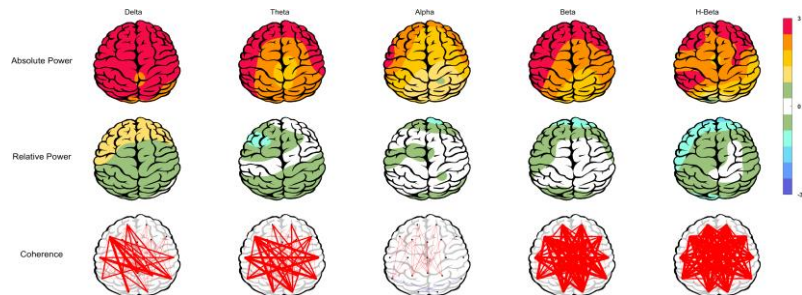
Mr Karami

Summary Report

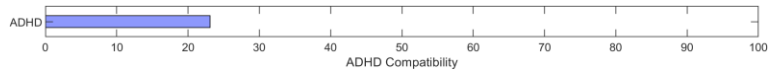
EEG Quality



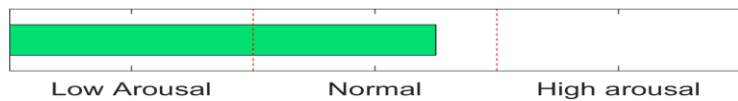
Z-score Information



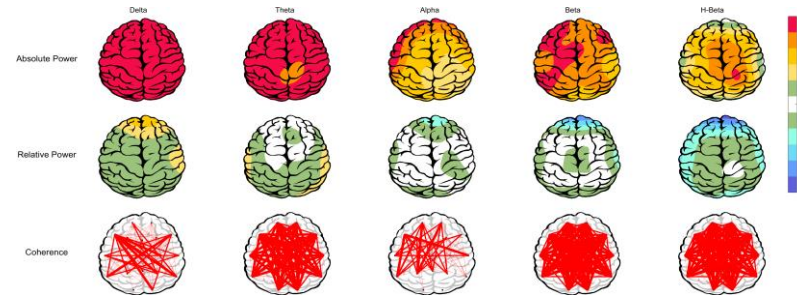
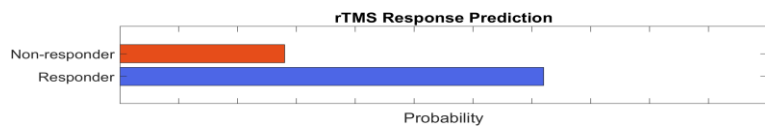
Compatibility with ADHD



Arousal Level



TMS Responsibility



APF

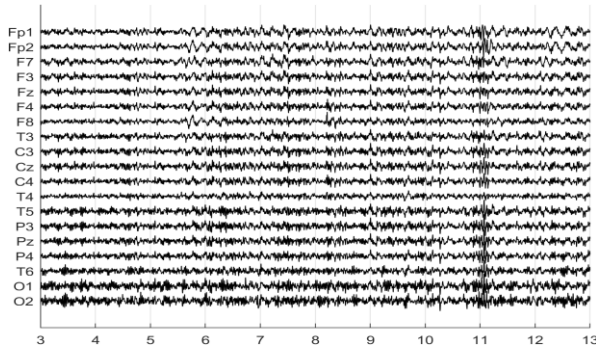
Posterior APF-EC= 10.25

Posterior APF-EO= 10.25

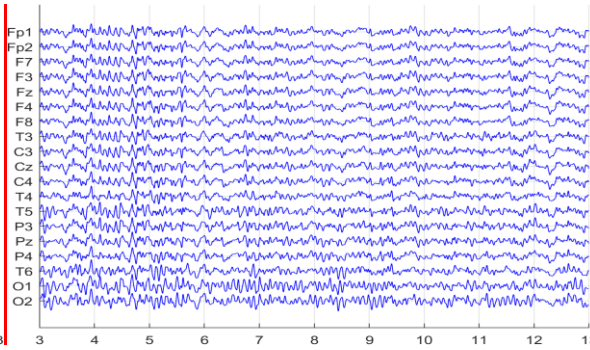
To investigate QEEG-based predicting medication response, please refer to the Report.

Denoising Information (EC)

Raw EEG



Denoised EEG



Flat Channels



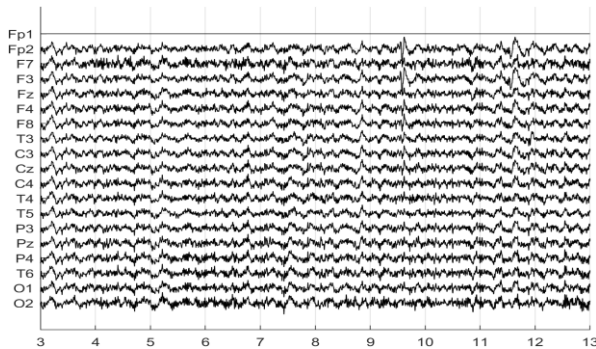
Rejected Channels



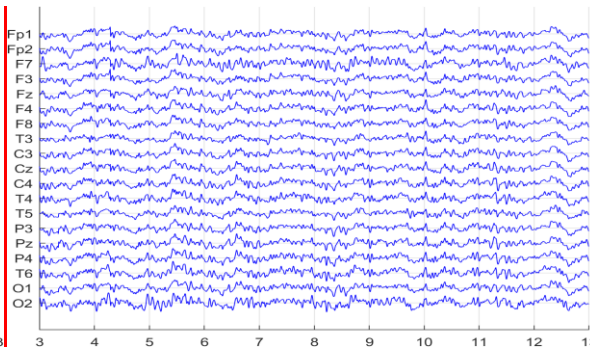
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	3	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	
				125.89 sec	

Denoising Information (EO)

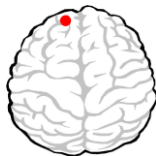
Raw EEG



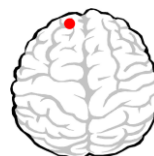
Denoised EEG



Flat Channels



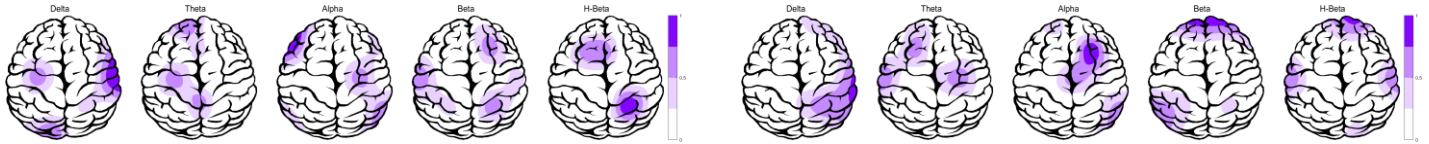
Rejected Channels



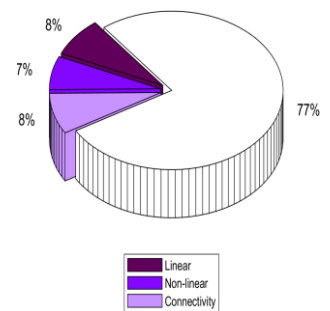
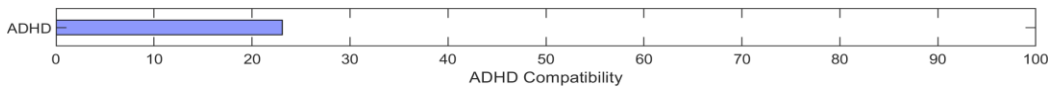
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	1	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		bad		Total Recording Time Remaining	
				190.23 sec	

Pathological assessment for ADHD

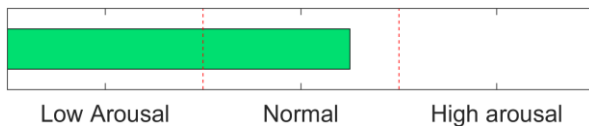
Compare to ADHD Database



EEG Compatibility with ADHD Diagnosis



Arousal Level Detection



ADHD Clustering *

1. Same inattentive and hyperactive prevalence. Well respond to stimulants.

* If there is Paroxymal epileptic discharge in EEG data, this case needs sufficient sleep and should avoid high carbohydrate intake.
You can consider anticonvulant medications.

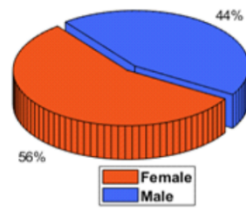
rTMS Response Prediction

Network Performance

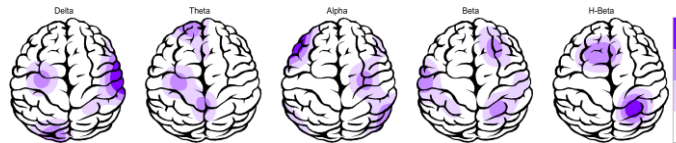
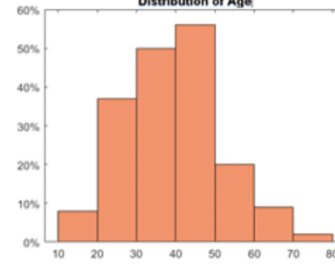
Accuracy: 92.1%
Sensitivity: 89.13%
Specificity: 97.47%

Participants Information

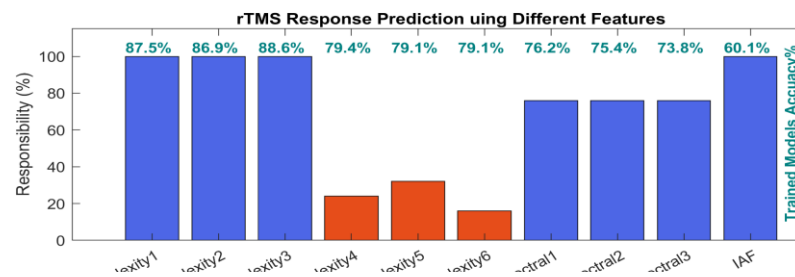
Distribution of Gender



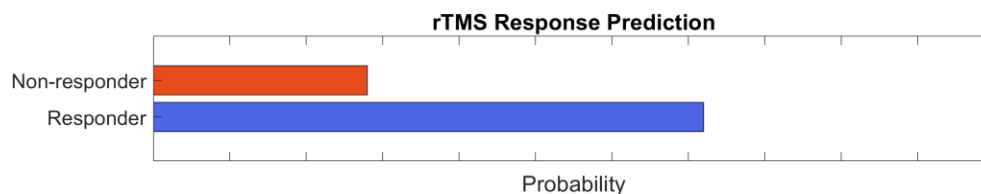
Distribution of Age



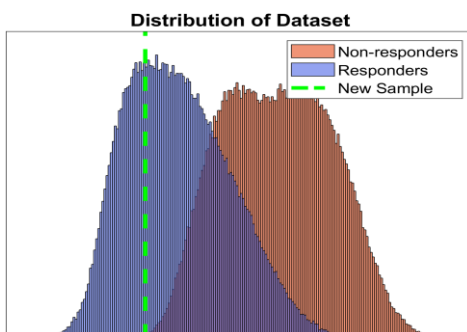
Features Information



Responsibility



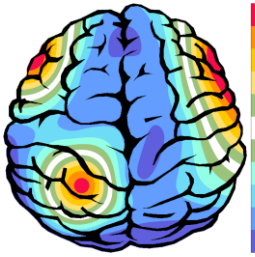
Data Distribution



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= 10.25

Posterior APF= 10.25

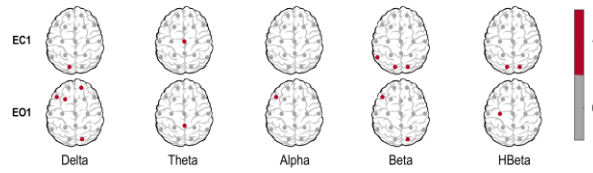
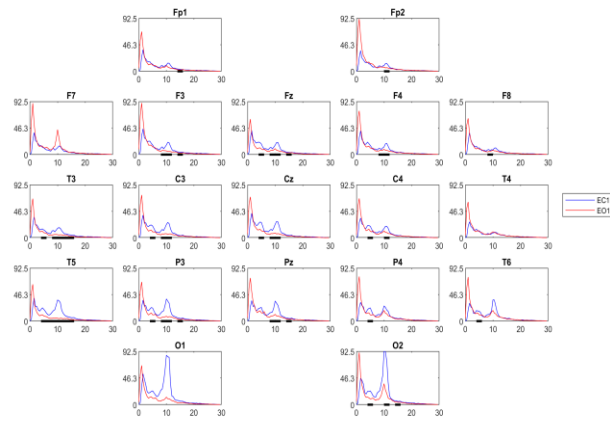
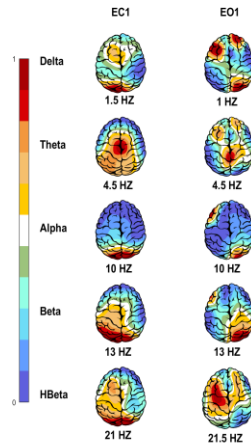
APF(EC)



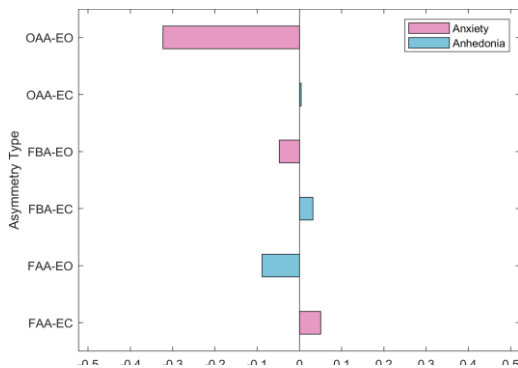
Frontal APF= 10.75

Posterior APF= 10.25

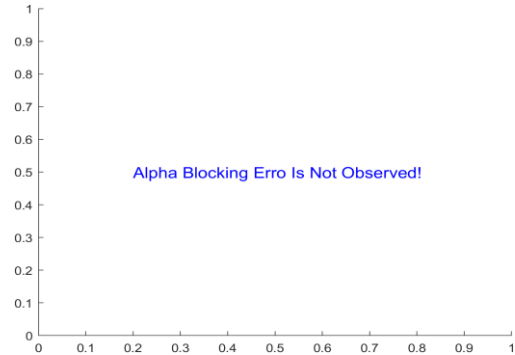
EEG Spectra



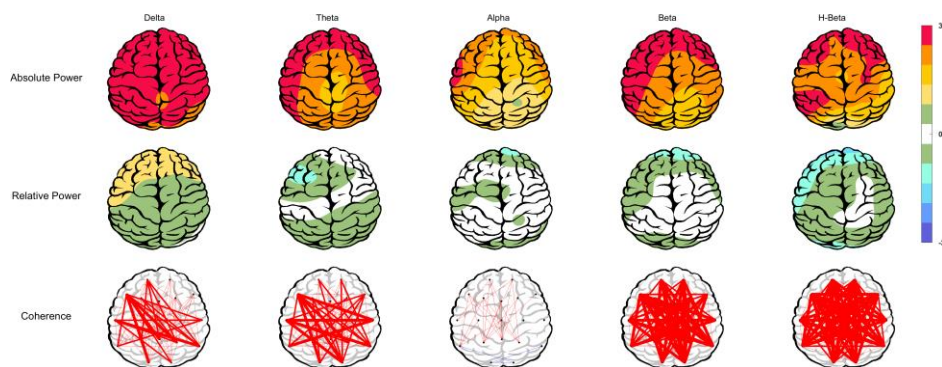
Alpha Asymmetry(AA)



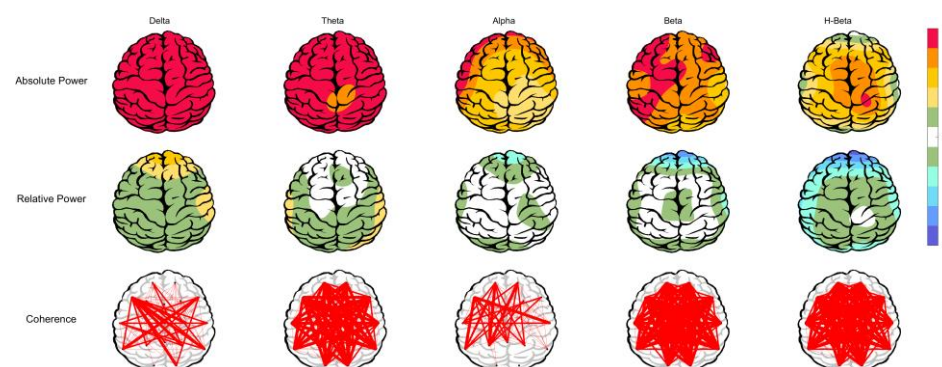
Alpha Blocking



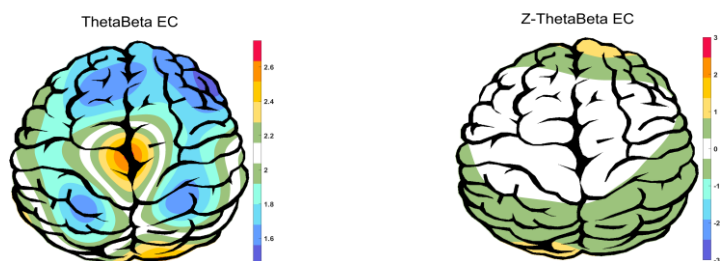
Z Score Summary Information (EC)



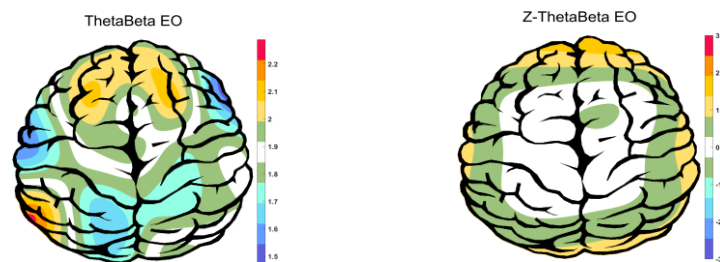
Z Score Summary Information (EO)



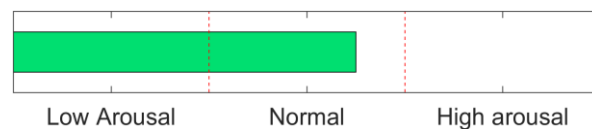
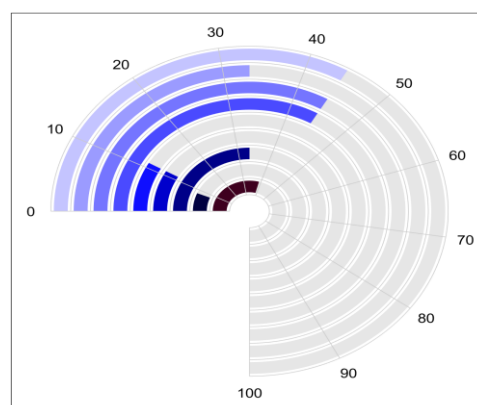
E.C.T/B Ratio (Raw- Z Score)



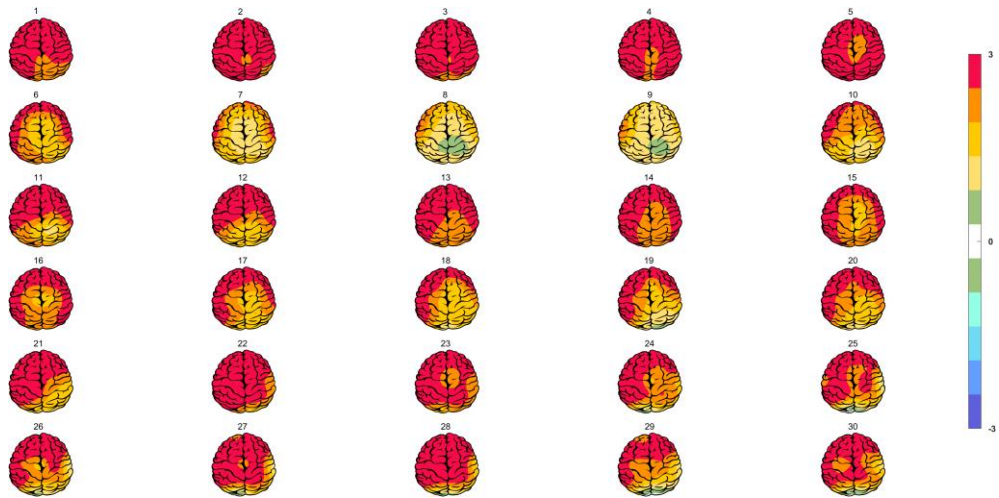
E.O.T/B Ratio (Raw- Z Score)



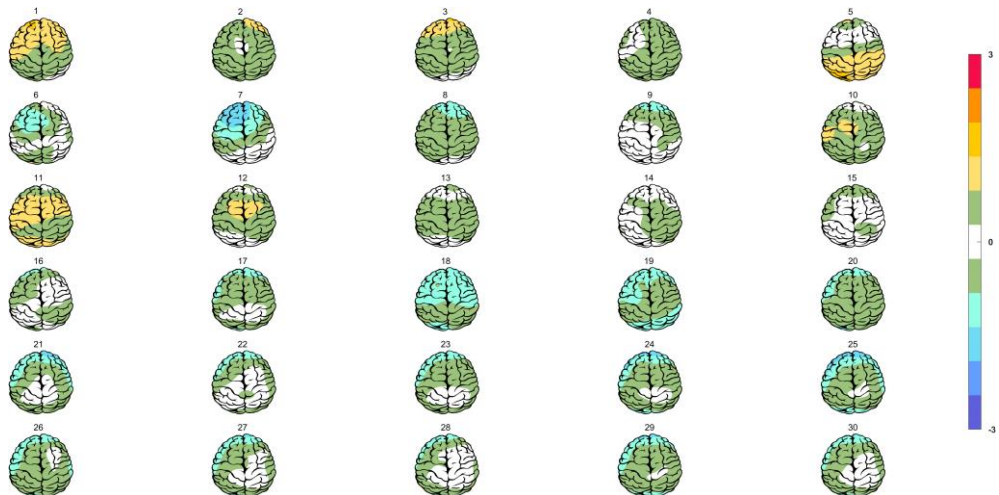
Arousal Level



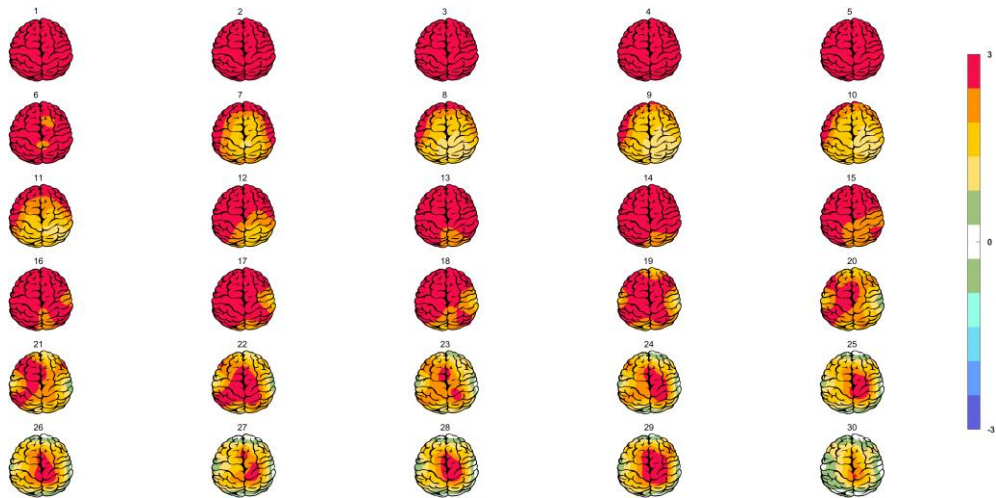
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)

