



QEEG Clinical Report

BrainLens V0.4

Report Description

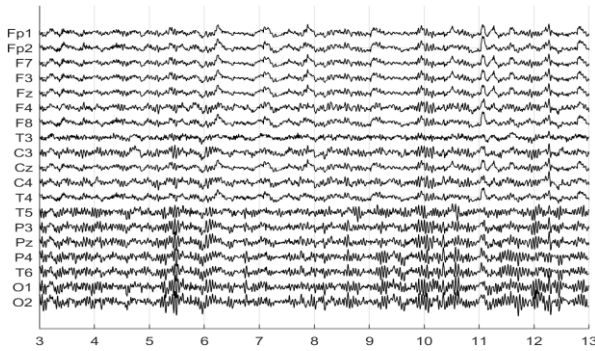
Personal & Clinical Data

Name	Zahra Ehsanirad	Date of Recording	08-Oct-2024
Date of Birth - Age	06-Aug-2009 - 15.17	Gender	Female
Handedness(R/L)	Right	Source of Referral	Reyhan Clinic-Dr Javadifar
Initial Diagnosis	ADHD-Depression-OCD		
Current Medication	Medication Free		

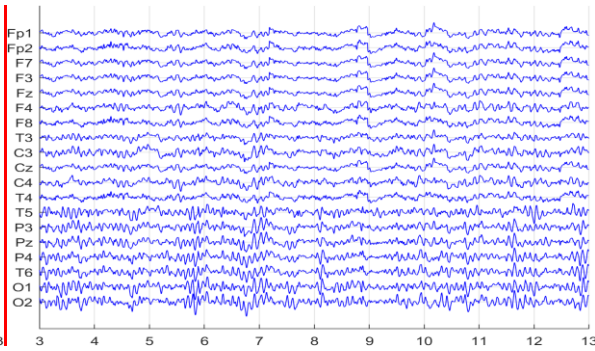
Reyhan Clinic-Dr Javadifar

Denoising Information (EC)

Raw EEG



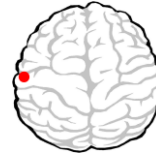
Denoised EEG



Flat Channels



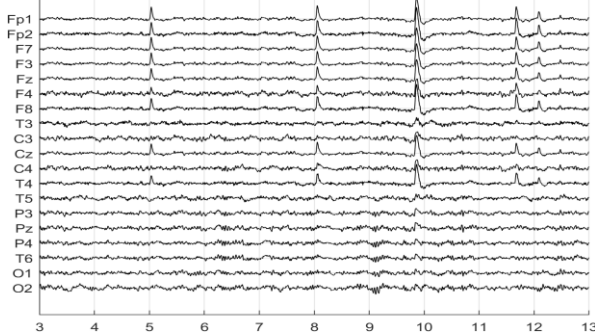
Rejected Channels



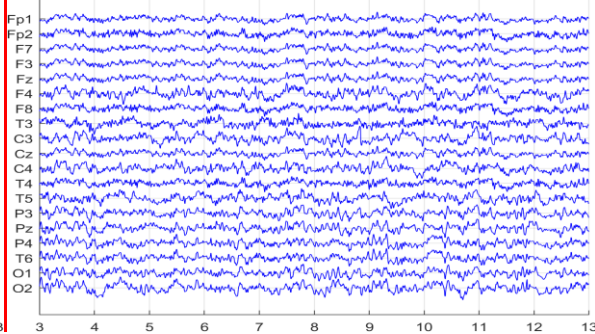
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	0	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	240.50 sec

Denoising Information (EO)

Raw EEG



Denoised EEG



Flat Channels



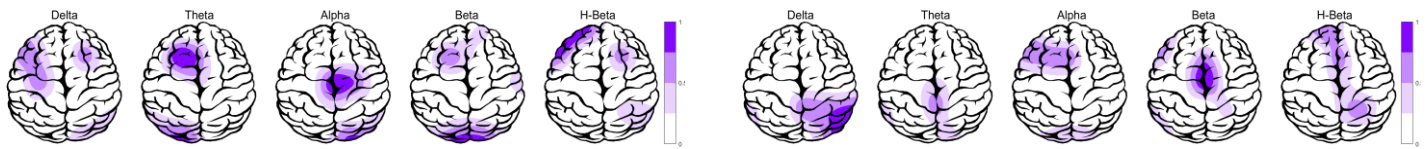
Rejected Channels



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	232.66 sec

Pathological assessment for ADHD

Compare to ADHD Database



EEG Compatibility with ADHD Diagnosis

ADHD Table	EC		EO	
Feature Name	Threshold	Region	Threshold	Region
Increased rDelta	0.00	NAN	0.50	global
Increased rTheta	0.00	NAN	0.00	NAN
Increased rAlpha	0.50	global	0.00	NAN
Increased rBeta	0.00	NAN	0.00	NAN
Decreased SMR	-0.50	global	-1.00	global
Increased T/B Ratio	0.00	NAN	1.00	Fz and Cz

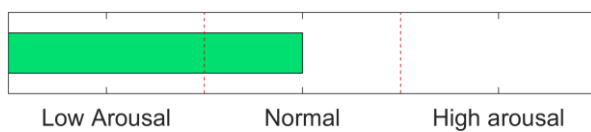
ADHD

0 10 20 30 40 50 60 70 80 90 100

ADHD Compatibility

ADHD Probability

Arousal Level Detection



ADHD Clustering *

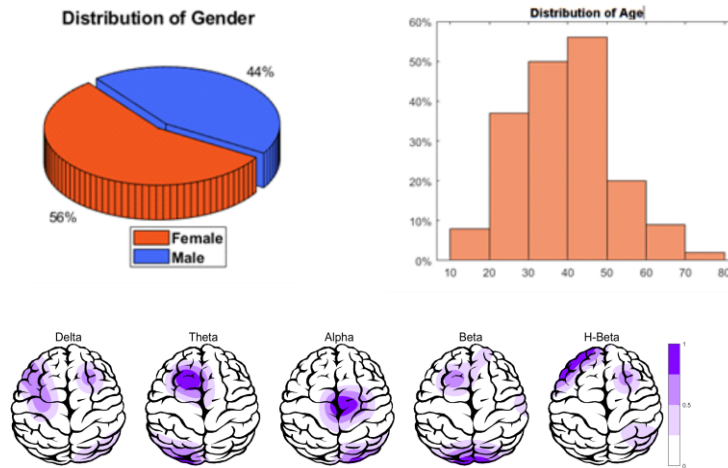
1. Same inattentive and hyperactive prevalence. Well respond to stimulants.

rTMS Response Prediction

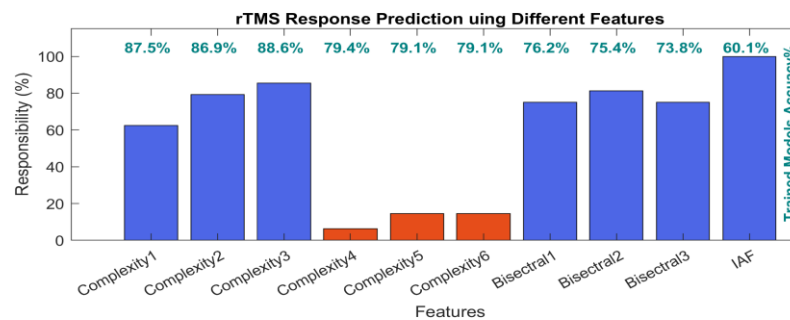
Network Performance

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

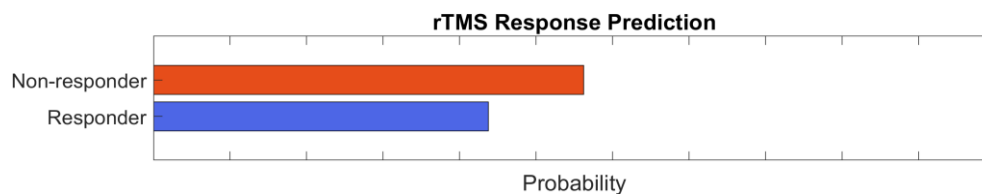
Participants Information



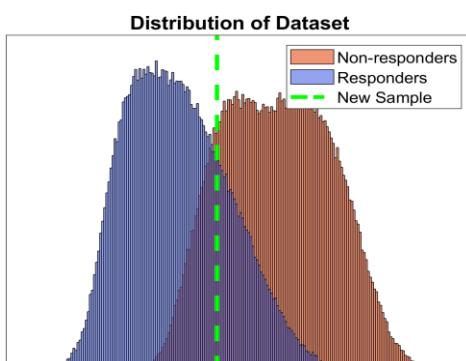
Features Information



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= 09.58

Posterior APF= 10.38

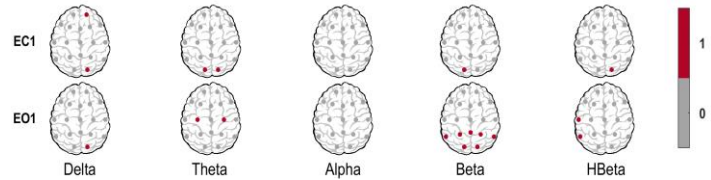
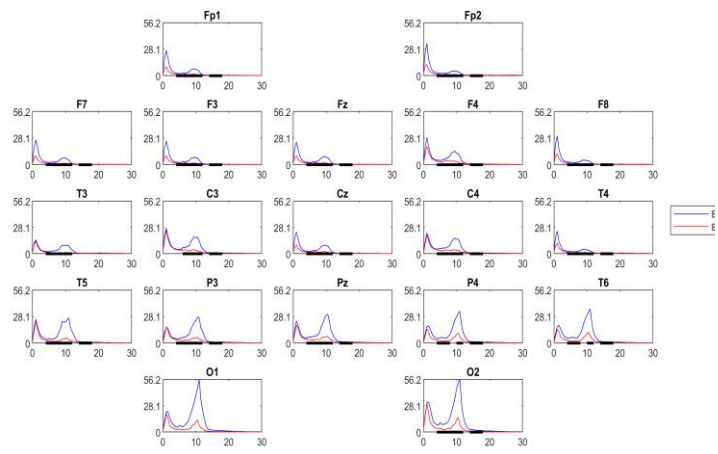
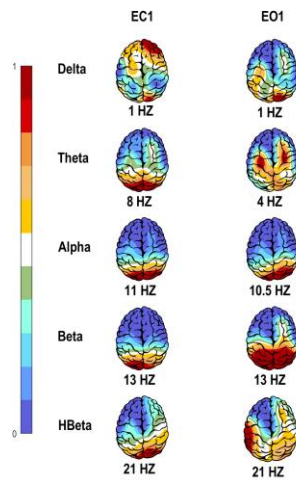
APF(EC)



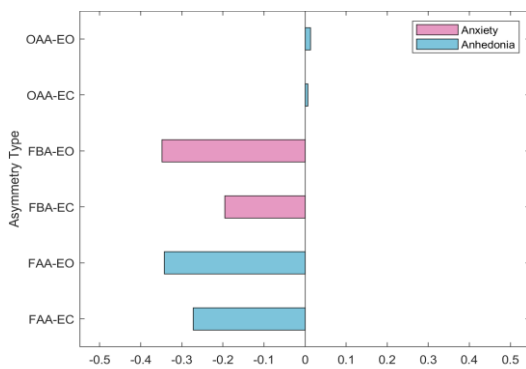
Frontal APF= 09.75

Posterior APF= 10.75

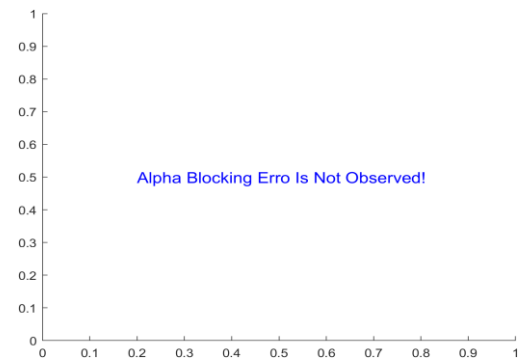
EEG Spectra



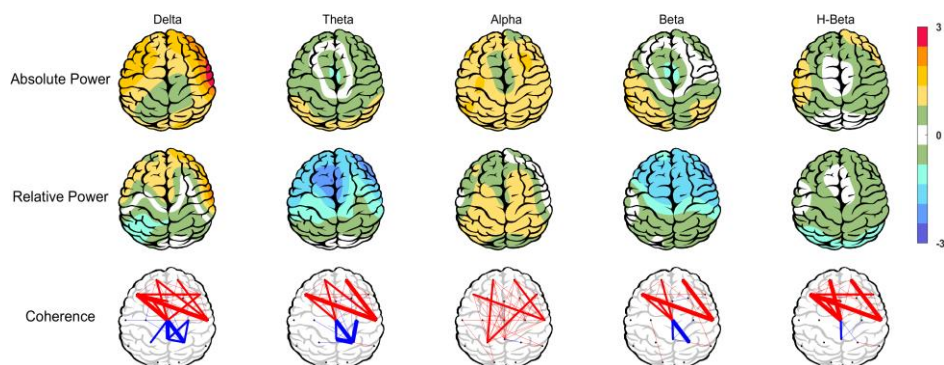
Alpha Asymmetry(AA)



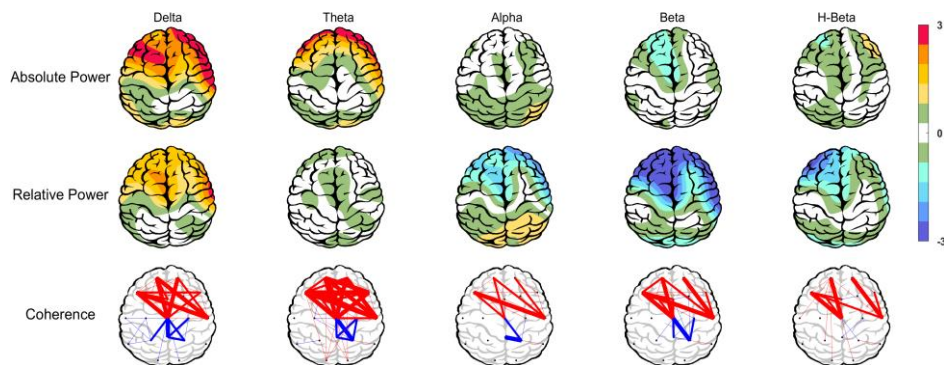
Alpha Blocking



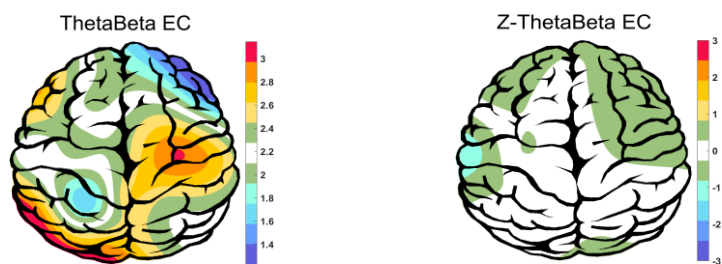
Z Score Summary Information (EC)



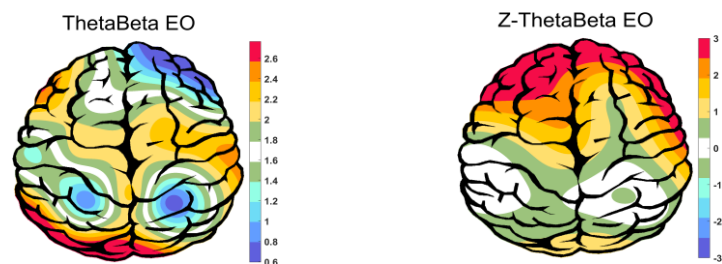
Z Score Summary Information (EO)



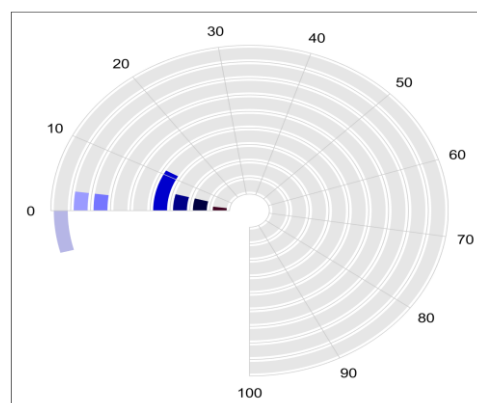
E.C.T/B Ratio (Raw- Z Score)



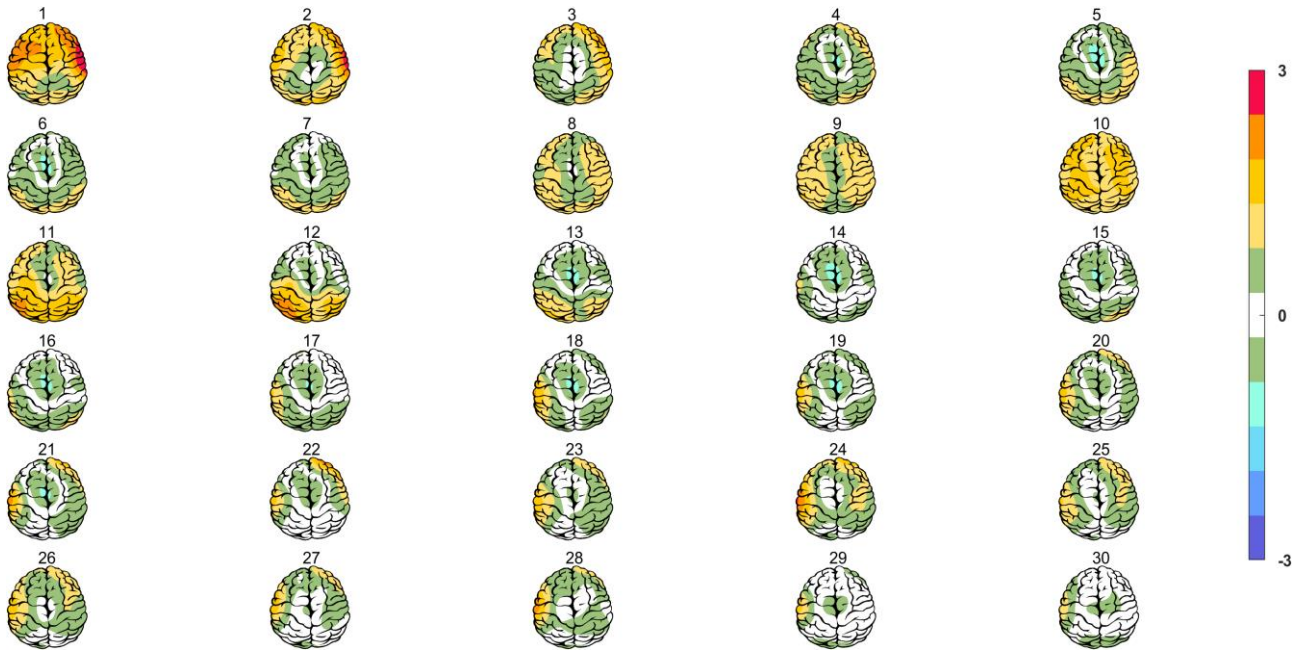
E.O.T/B Ratio (Raw- Z Score)



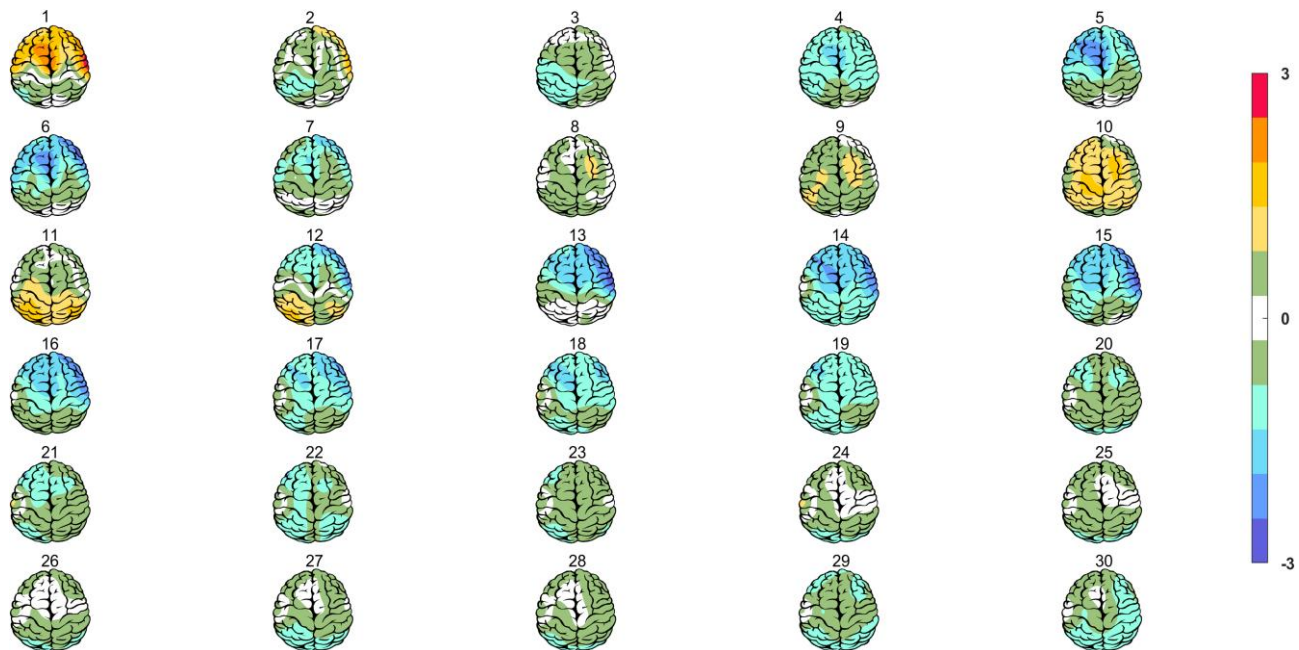
Arousal Level



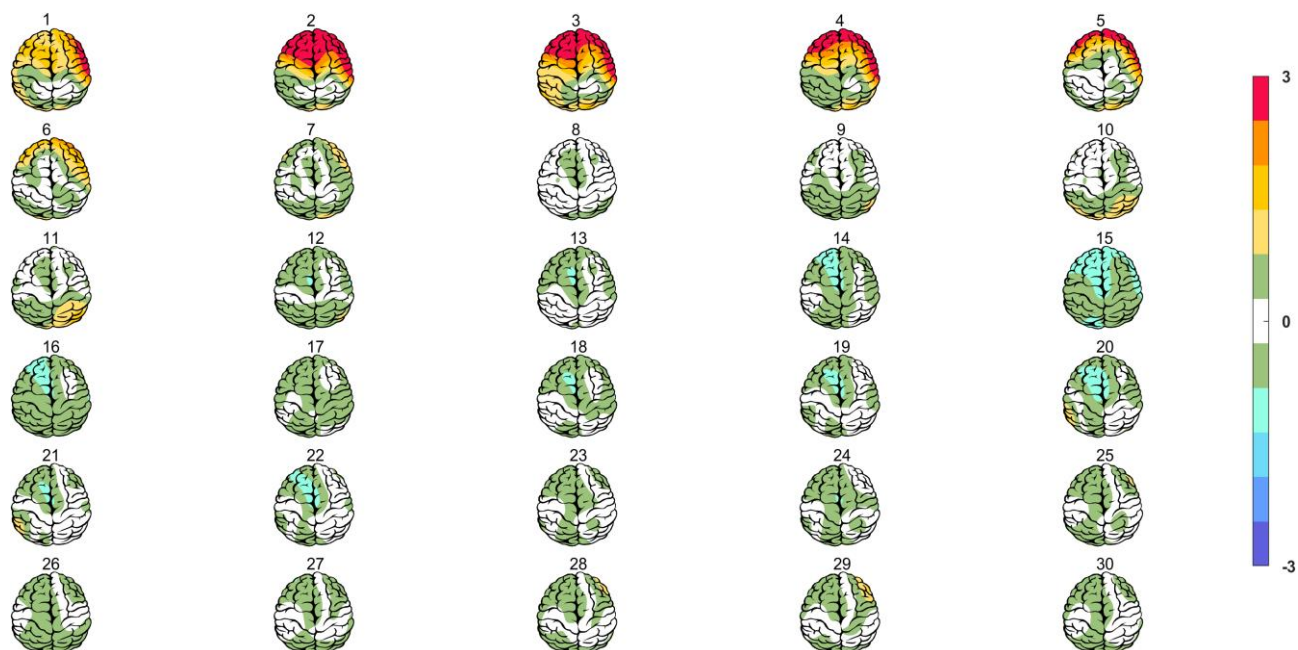
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)

