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QEEG Clinical Report

BrainLens V0.4

Report Description

Personal & Clinical Data

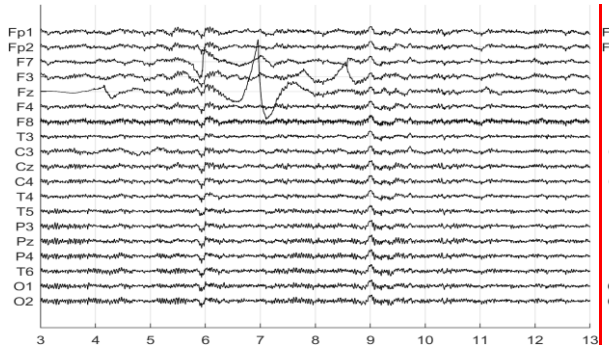
Name	F M	Date of Recording	02-Nov-2024
Date of Birth - Age	20-Jul-1995 - 29.28	Gender	Female
Handedness(R/L)	Right	Source of Referral	Dr Naseri
Initial Diagnosis	General Review		
Current Medication	Medication Free		

Dr Naseri

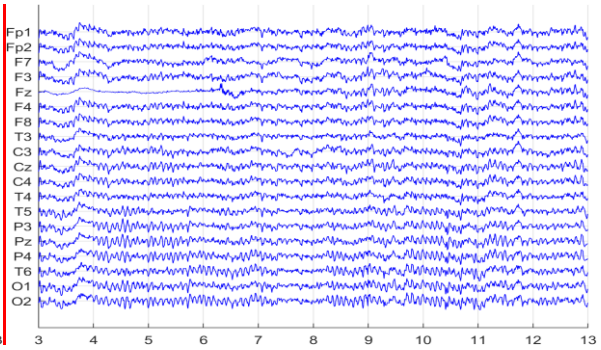
F M\Dr Naseri

Denoising Information (EC)

Raw EEG



Denoised EEG



Flat Channels

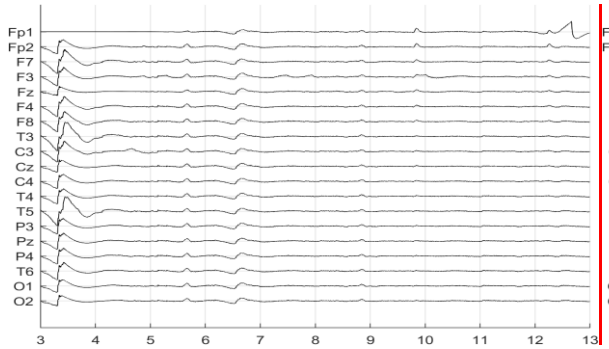
Rejected Channels

Number of Eye and Muscle Elements			
Eye	1	Muscle	0
Total Artifact Percentage			
EEG Quality	good		

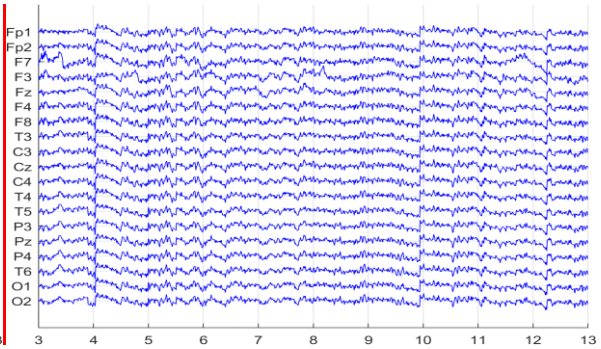
Low Artifact Percentage	
High Artifact Percentage	
Total Recording Time Remaining	193.10 sec

Denoising Information (EO)

Raw EEG



Denoised EEG



Flat Channels

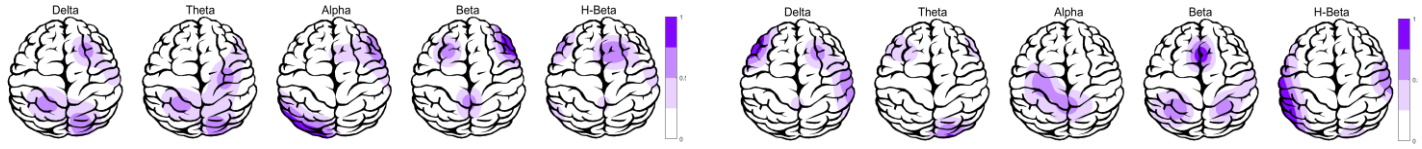
Rejected Channels

Number of Eye and Muscle Elements			
Eye	3	Muscle	0
Total Artifact Percentage			
EEG Quality	bad		

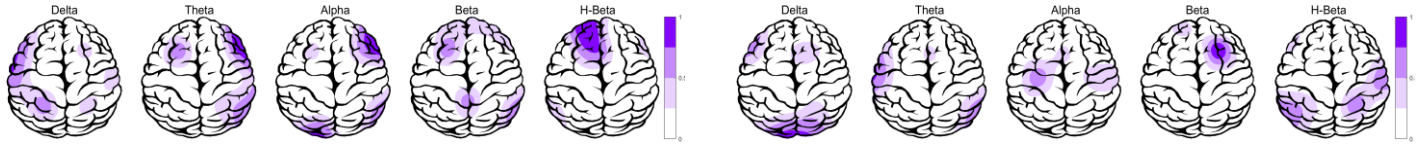
Low Artifact Percentage	
High Artifact Percentage	
Total Recording Time Remaining	200.27 sec

Pathological assessment for mood disorders and adult ADHD

Compare to Mood Disorders Database

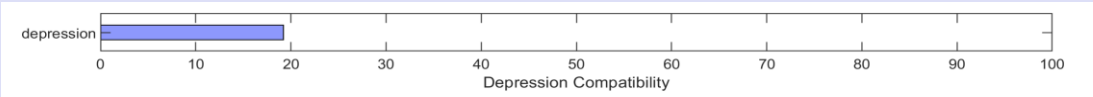


Compare to adult ADHD Database



EEG Compatibility with Depression Diagnosis

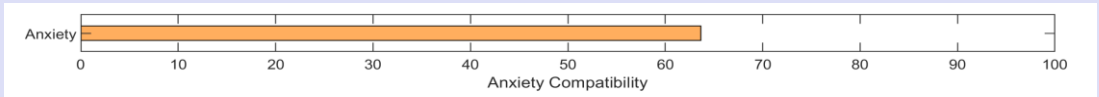
Depression Table	EC		EO	
Feature Name	Threshold	Region	Threshold	Region
Increased Global rAlpha	0.00	NAN	0.00	NAN
Increased global rTheta	0.00	NAN	0.00	NAN
Decreased rDelta	0.00	NAN	0.00	NAN
Increased rBeta	0.00	NAN	0.00	NAN
Left FAA	-0.02	Left FAA	0.00	NAN
Right OAA	0.00	NAN	0.00	NAN
Decreased Coherence (D, T)	0.00	NAN	0.00	NAN
Increased Coherence (A, B)	2.00	Increased Coherence	3.00	Increased Coherence



Depression Probability

EEG Compatibility with Anxiety Diagnosis

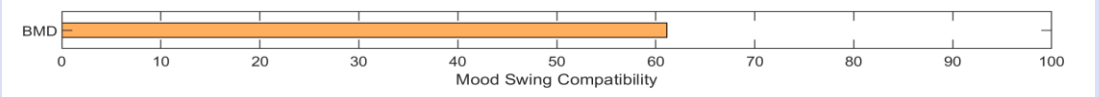
Anxiety Table	EC		EO	
Feature Name	Threshold	Region	Threshold	Region
Decreased rAlpha	-1.00	LF-RF-MF-LT-RT-C-P-O-	-2.00	LF-RF-MF-LT-RT-C-P-O-
Increased rBeta	0.00	NAN	0.00	NAN
Right FAA	0.00	NAN	0.02	Right FAA
Left OAA	-0.14	Left OAA	-0.00	Left OAA
Increased IAF > 10.6	1.00	Increased IAF	1.75	Increased IAF



Anxiety Probability

EEG Compatibility with Mood Swings Diagnosis

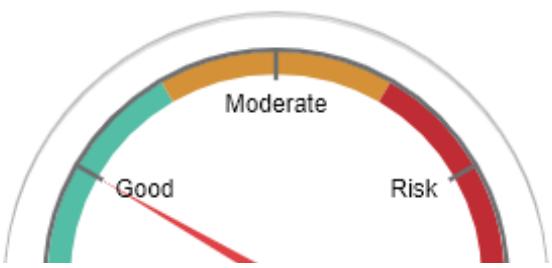
Mood Swings Table	EC		EO	
Feature Name	Threshold	Region	Threshold	Region
Decreased rAlpha	-1.00	LF-RF-MF-LT-RT-C-P-O-	-2.00	LF-RF-MF-LT-RT-C-P-O-
Increased (rDelta+rTheta)	1.00	LF-RF-MF-LT-RT-C-P-O-	0.50	RT-O-
Increased rBeta	0.00	NAN	0.00	NAN
Decreased Alpha Coherence	0.00	NAN	0.00	NAN
Right FAA	0.00	NAN	0.02	Right FAA



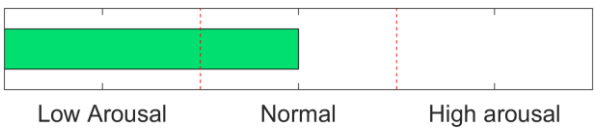
Mood Swings Probability

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

Cognitive Functions



Arousal Level Detection



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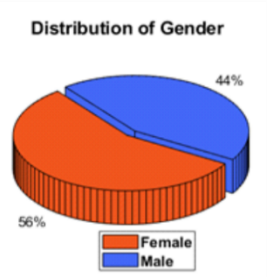
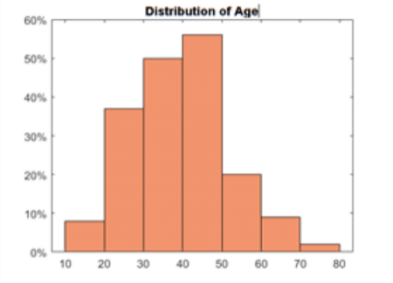
rTMS Response Prediction

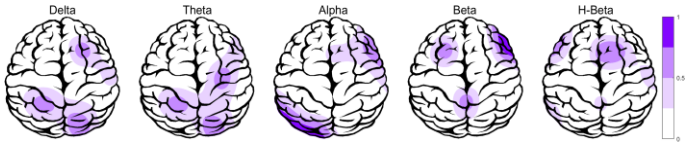
Network Performance

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

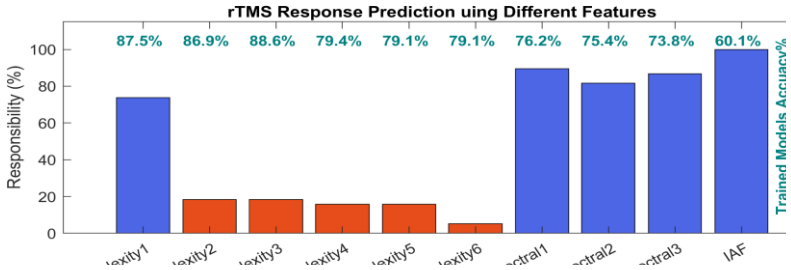
Participants Information



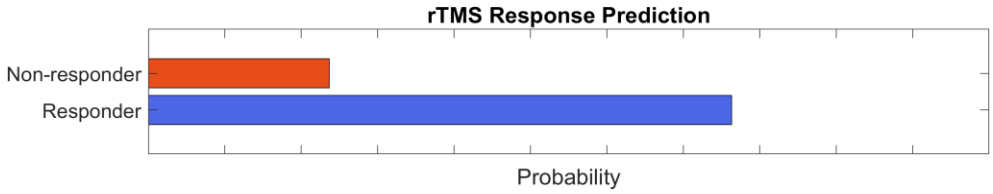




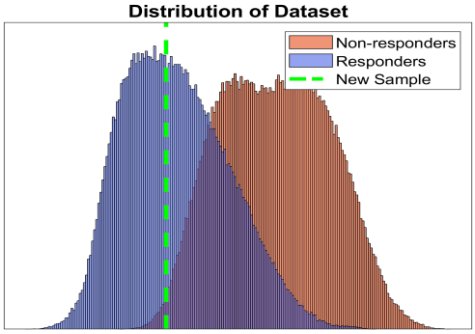
Features Information



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.

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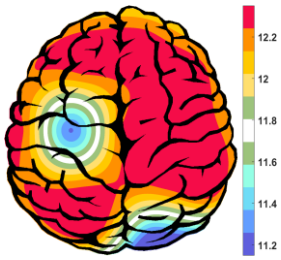
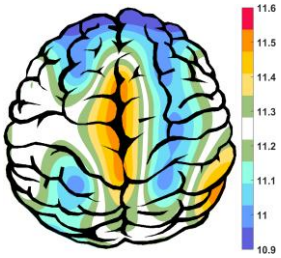
APF(EO)



Frontal APF= 11.92

Posterior APF= 12.25

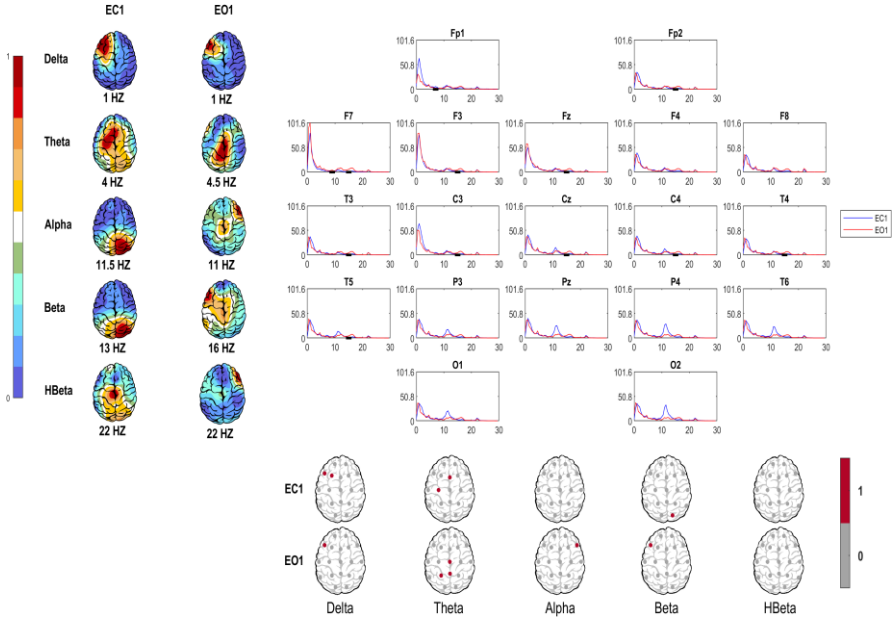
APF(EC)



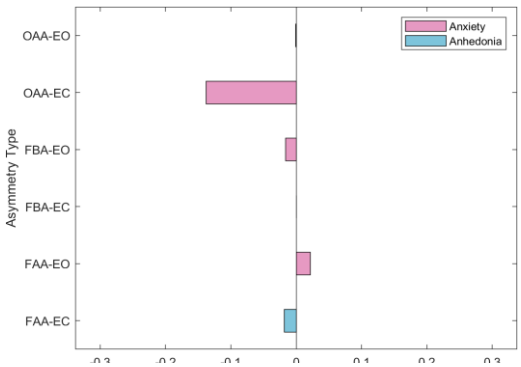
Frontal APF= 11.08

Posterior APF= 11.50

EEG Spectra



Alpha Asymmetry(AA)



Alpha Blocking

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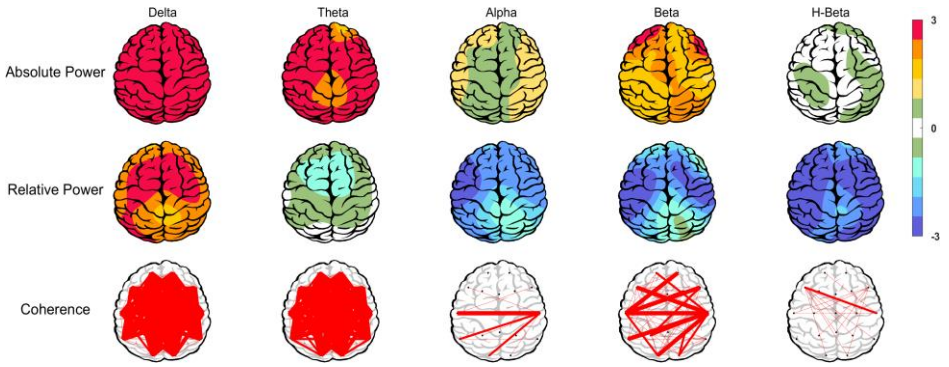
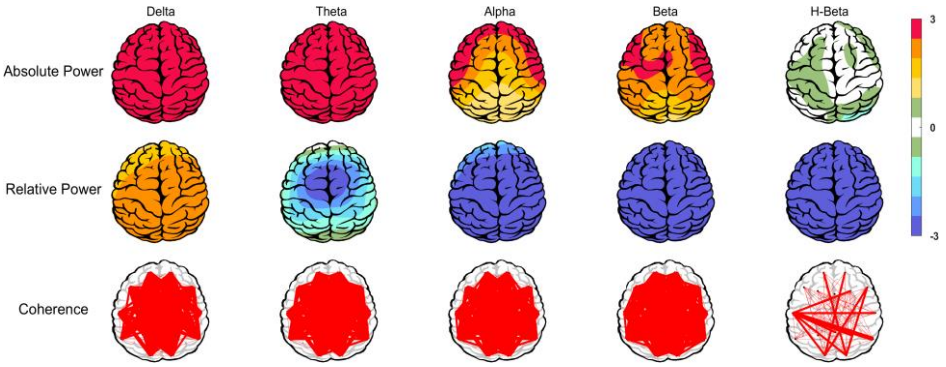
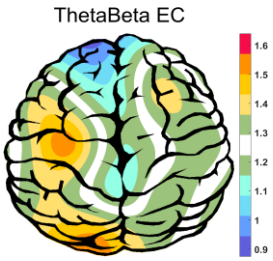
Z Score Summary Information (EC)

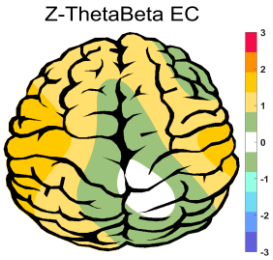


Z Score Summary Information (EO)

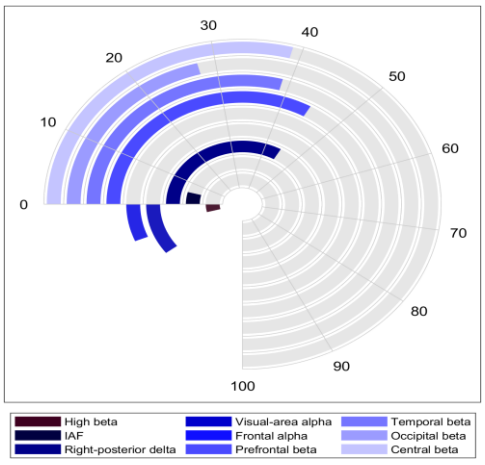


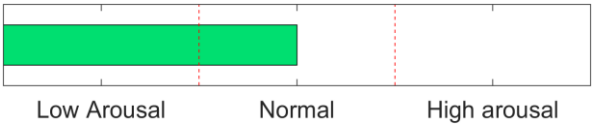
E.C.T/B Ratio (Raw- Z Score)



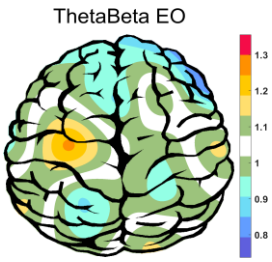


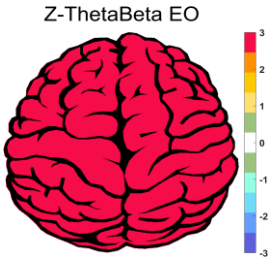
Arousal Level





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





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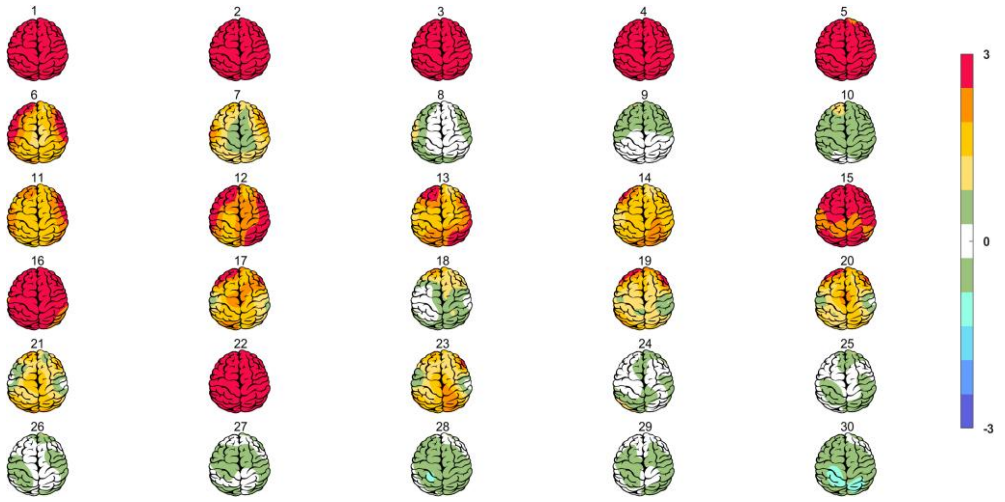
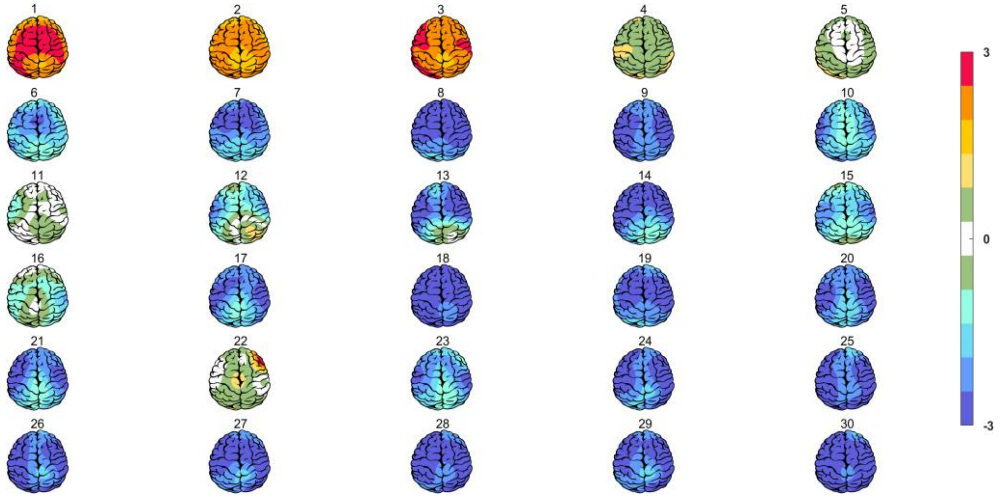
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



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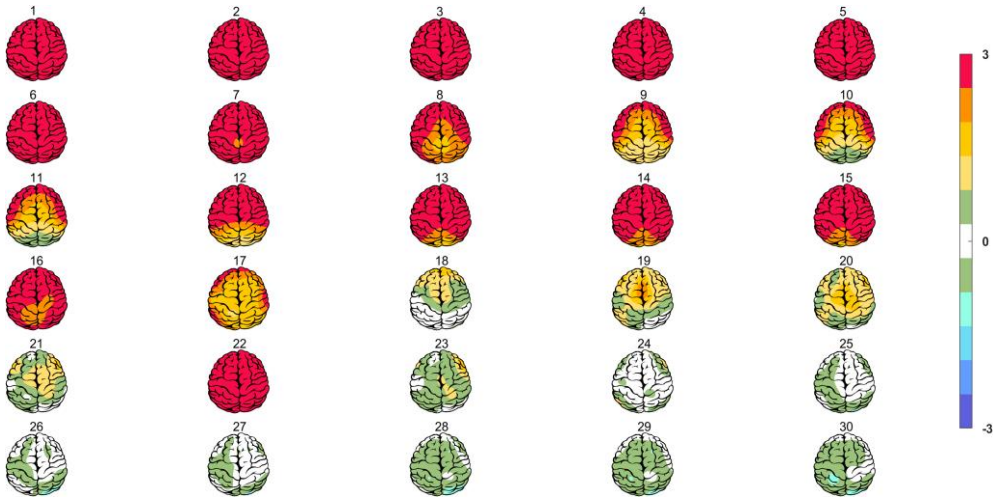
Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)