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QEEG Clinical Report

BrainLens V0.4

Report Description

Personal & Clinical Data

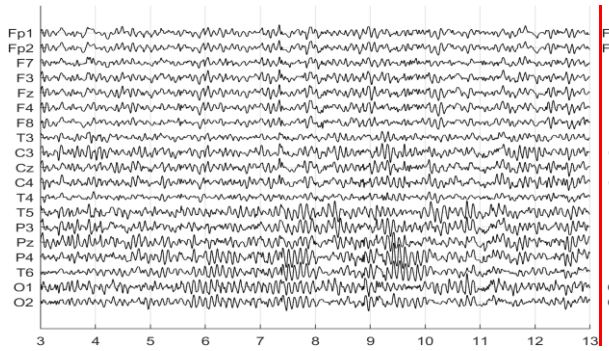
Name	Marziyeh Mirzaei	Date of Recording	19-Oct-2024
Date of Birth - Age	17-Feb-2008 - 16.67	Gender	Female
Handedness(R/L)	Right	Source of Referral	Dr Parvin Safavi
Initial Diagnosis	Anxiety		
Current Medication	Rahakin-Ritalin		

Dr Parvin Safavi

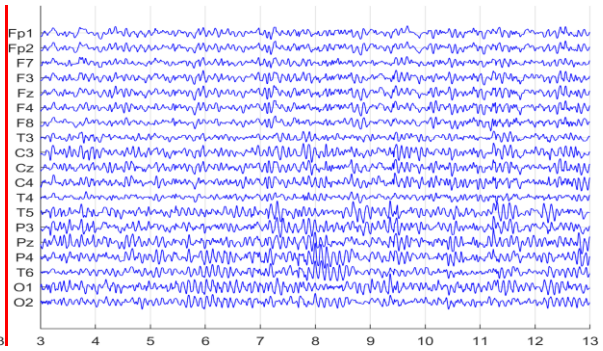
Marziyeh Mirzaei\Dr Parvin Safavi

Denoising Information (EC)

Raw EEG



Denoised EEG



Flat Channels

Rejected Channels

Number of Eye and Muscle Elements			
Eye	0	Muscle	0

Low Artifact Percentage

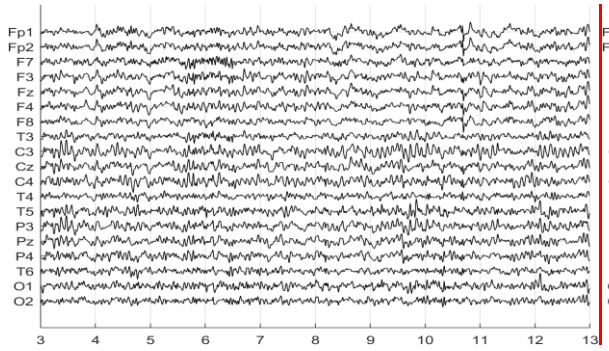
Total Artifact Percentage

High Artifact Percentage

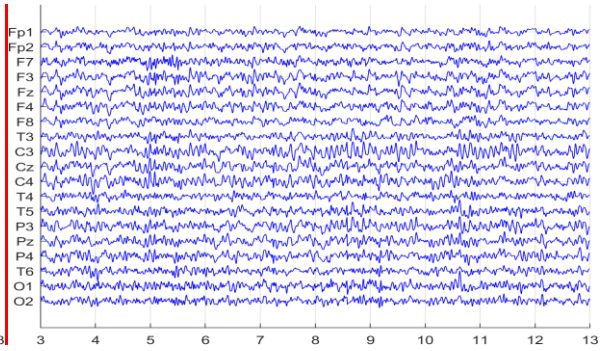
EEG Quality	bad	Total Recording Time Remaining	61.91 sec

Denoising Information (EO)

Raw EEG



Denoised EEG



Flat Channels

Rejected Channels

Number of Eye and Muscle Elements			
Eye	1	Muscle	1

Low Artifact Percentage

Total Artifact Percentage

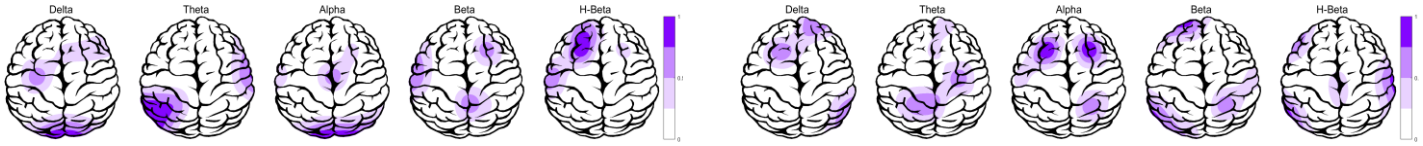
High Artifact Percentage

EEG Quality	bad	Total Recording Time Remaining	61.18 sec

Marziyeh Mirzaei\Dr Parvin Safavi

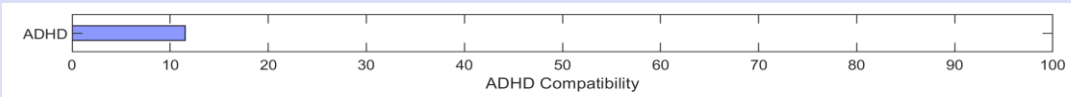
Pathological assessment for ADHD

Compare to ADHD Database



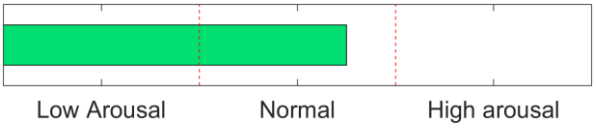
EEG Compatibility with ADHD Diagnosis

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



ADHD Probability

Arousal Level Detection

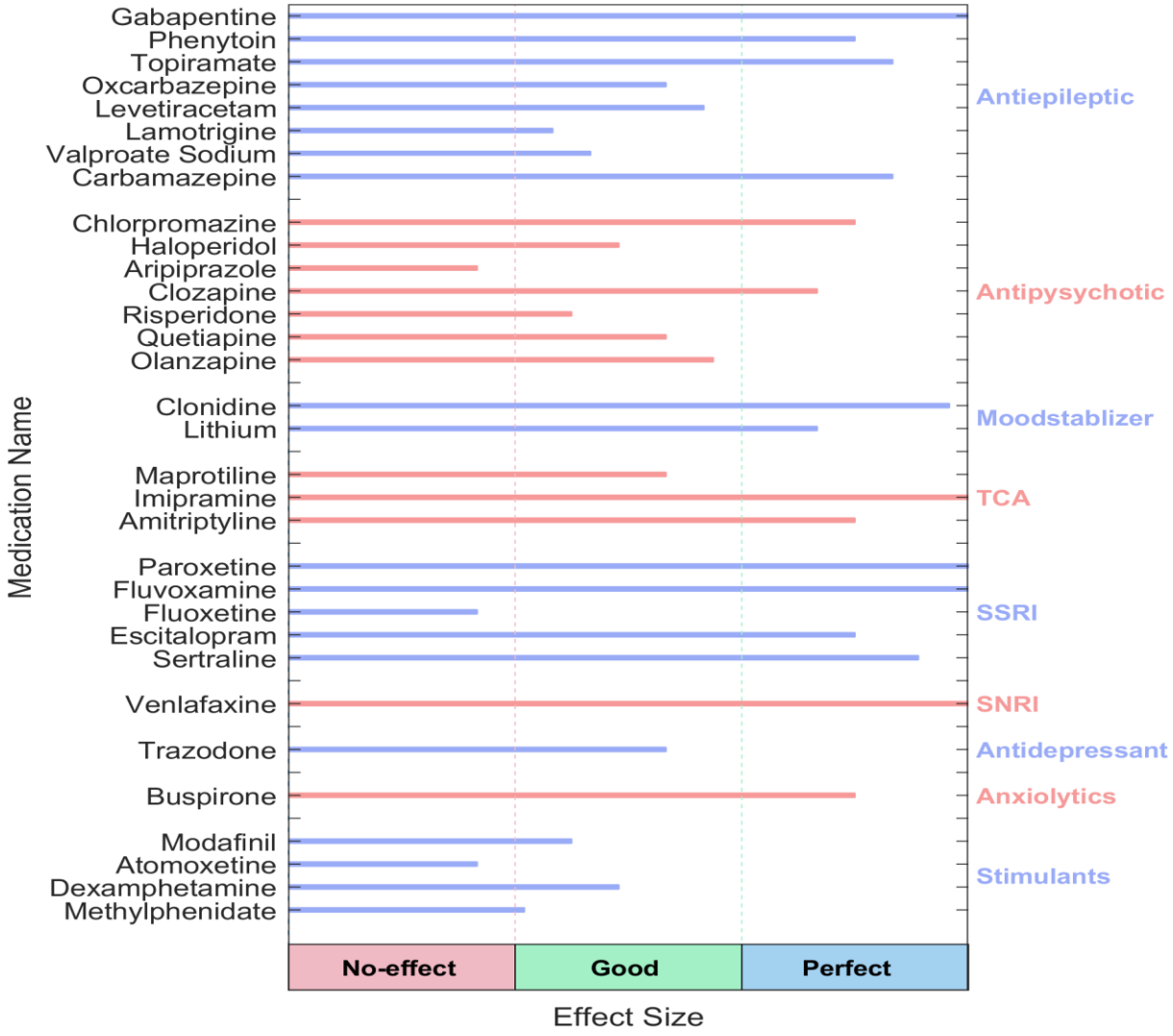


ADHD Clustering *

1. May be anxious, inattentive, may be highly intelligent, need sufficient sleep, and should avoid high carbohydrate intake. Consider clonidine.

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

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.

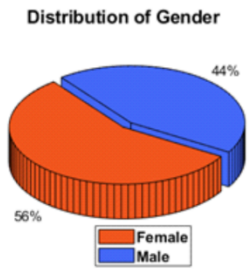
Marziyeh Mirzaei\Dr Parvin Safavi

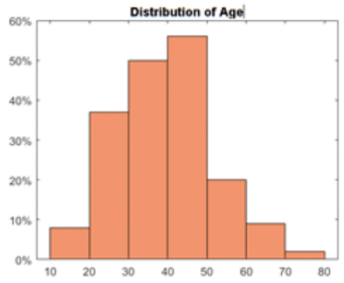
rTMS Response Prediction

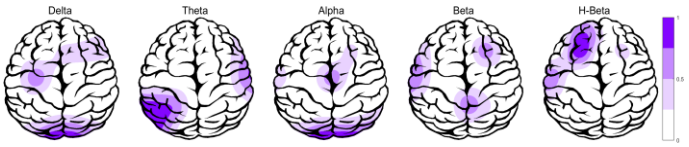
Network Performance

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

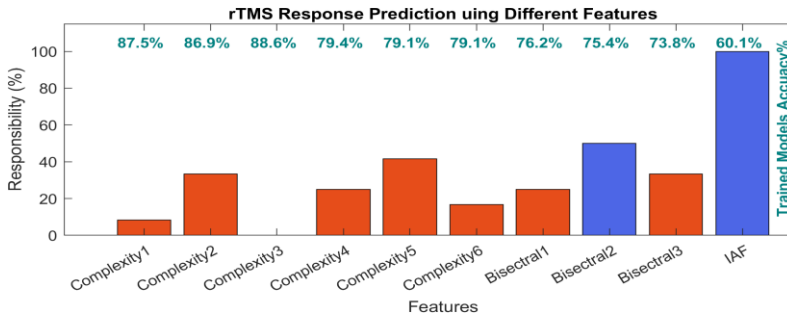
Participants Information



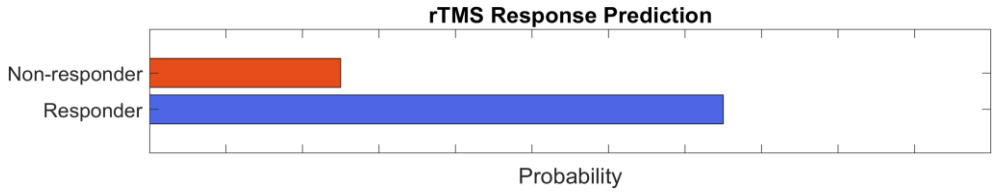




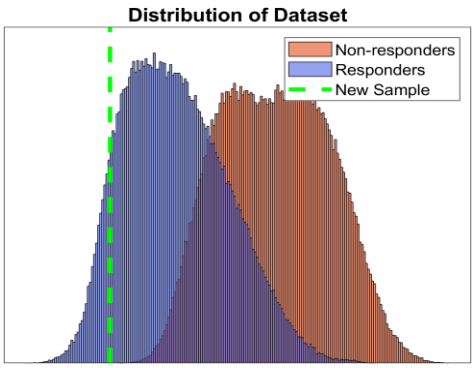
Features Information



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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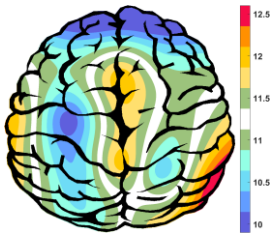
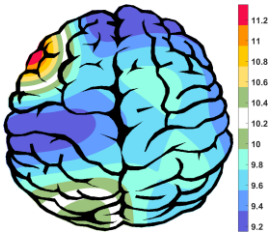
APF(EO)



Frontal APF= 10.67

Posterior APF= 11.88

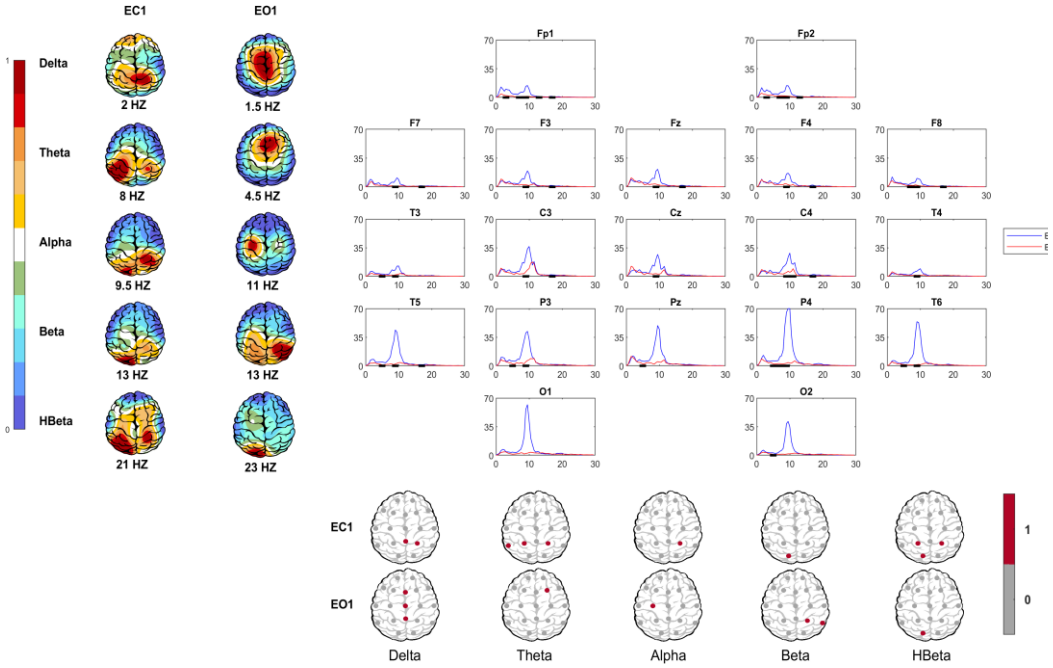
APF(EC)



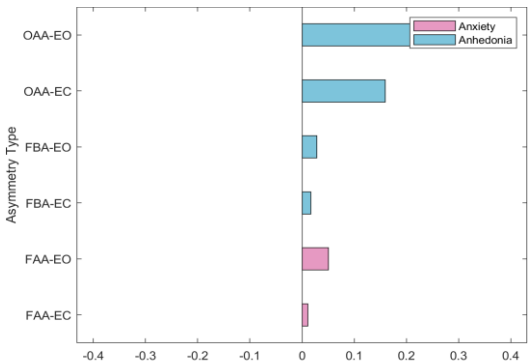
Frontal APF= 09.58

Posterior APF= 09.63

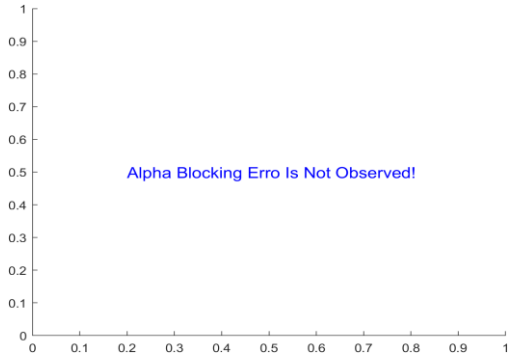
EEG Spectra



Alpha Asymmetry(AA)



Alpha Blocking



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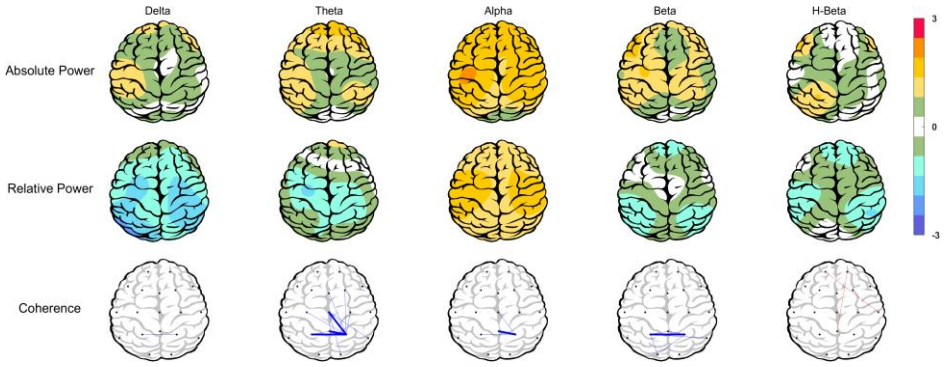
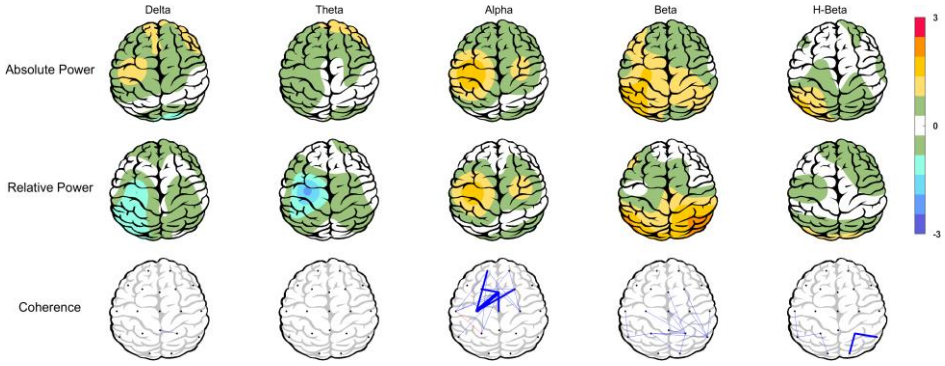
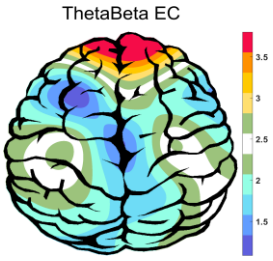
Z Score Summary Information (EC)

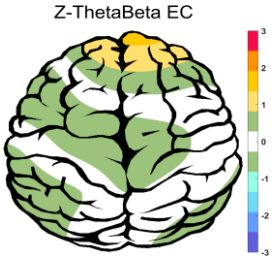


Z Score Summary Information (EO)

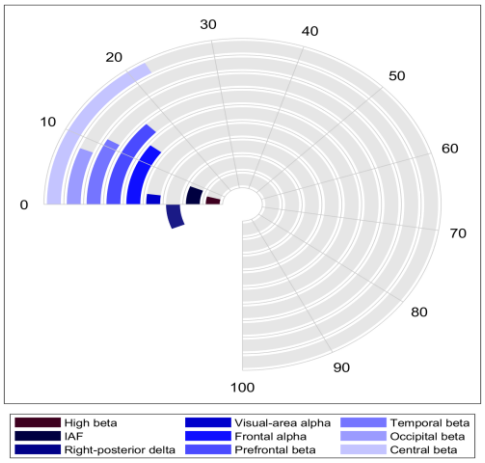


E.C.T/B Ratio (Raw- Z Score)

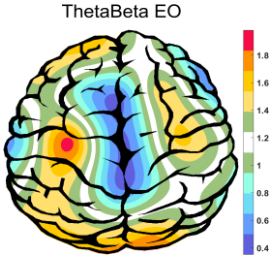


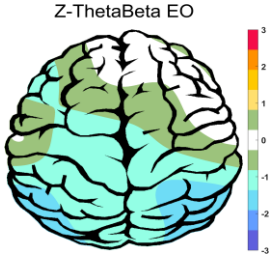


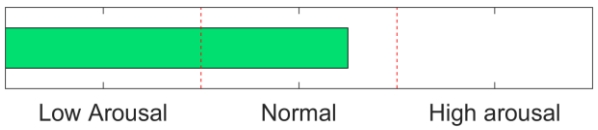
Arousal Level



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







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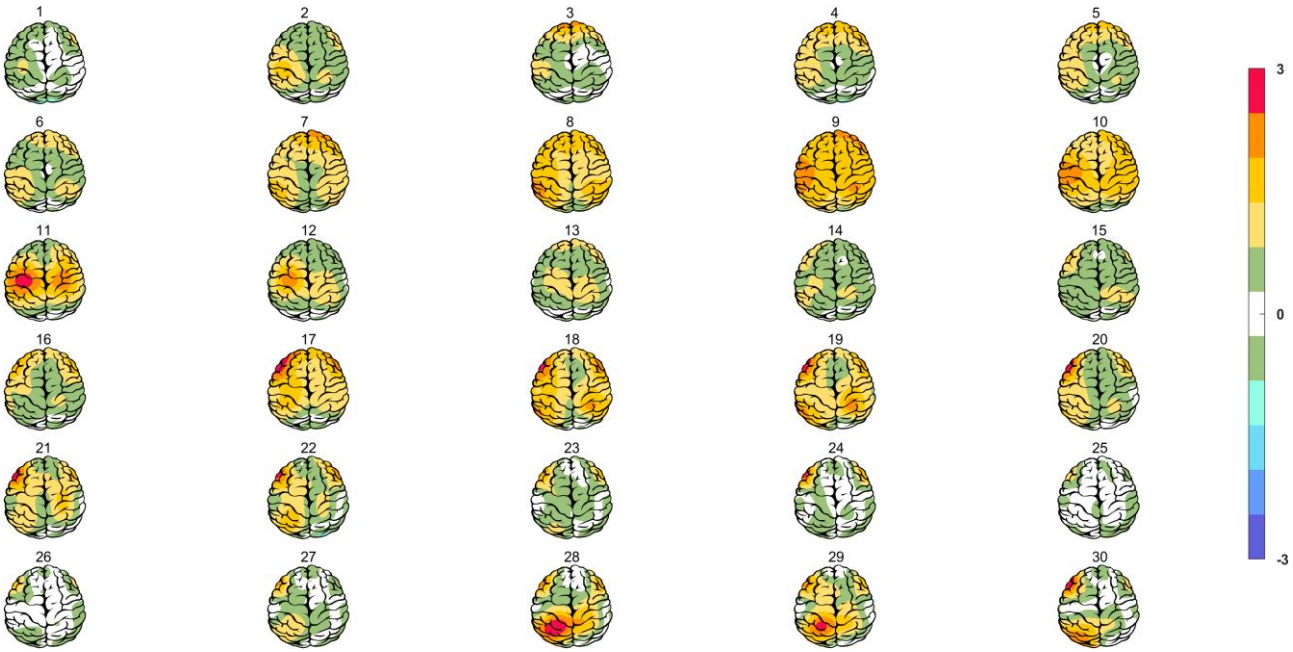
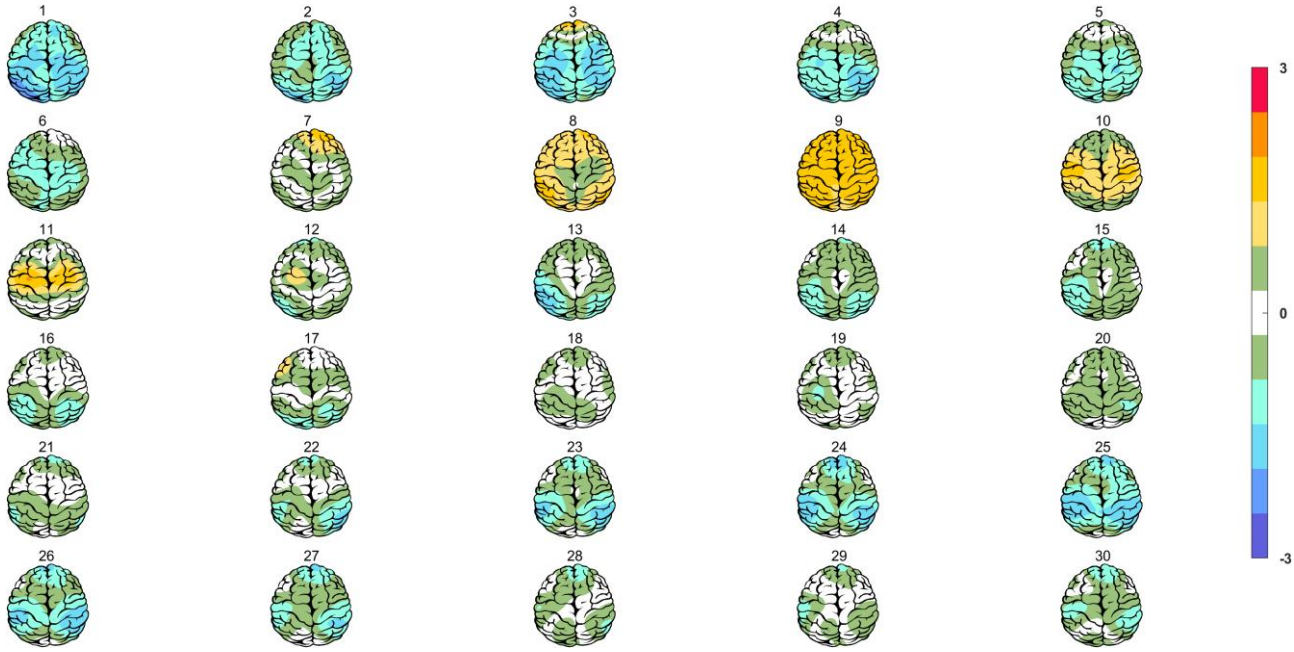
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



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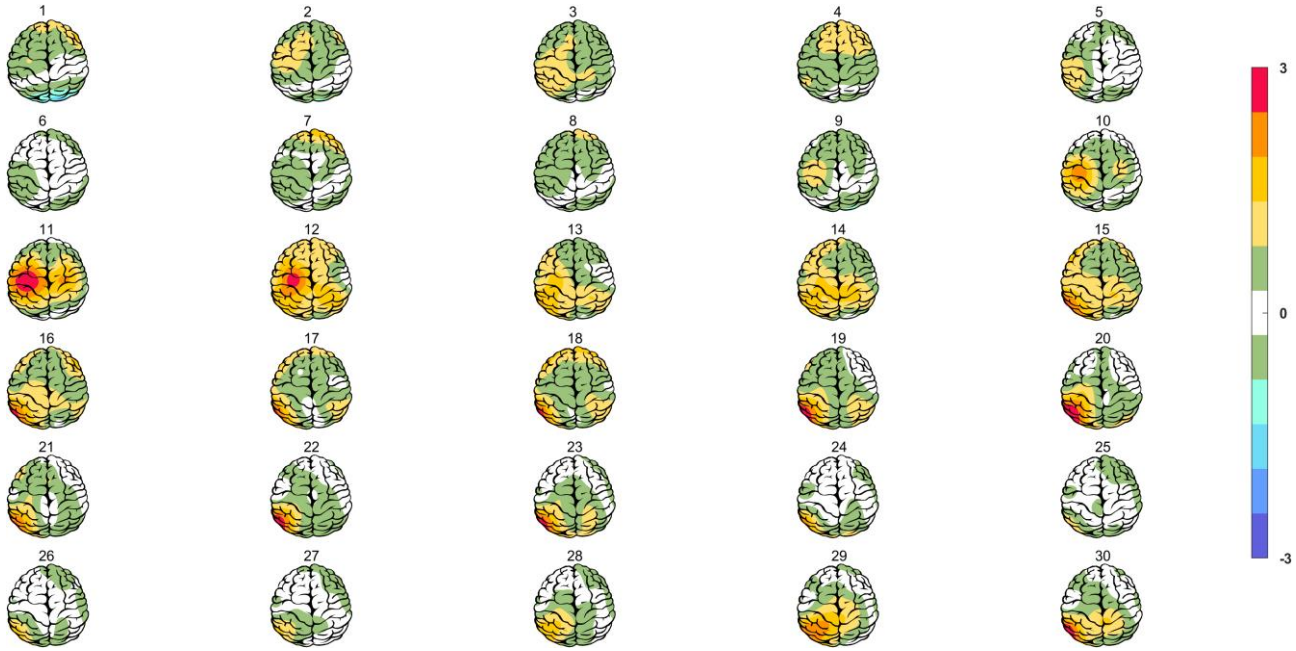
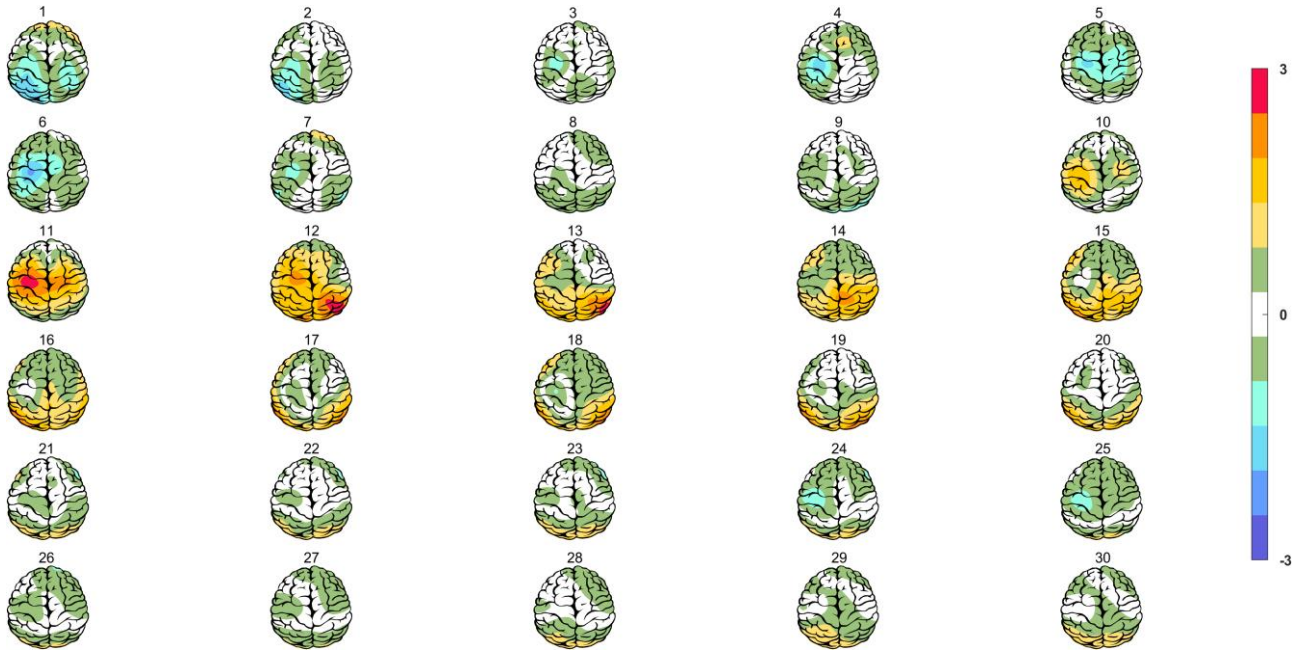
Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)