



QEEG Clinical Report

BrainLens V0.4



Report Description

Personal & Clinical Data

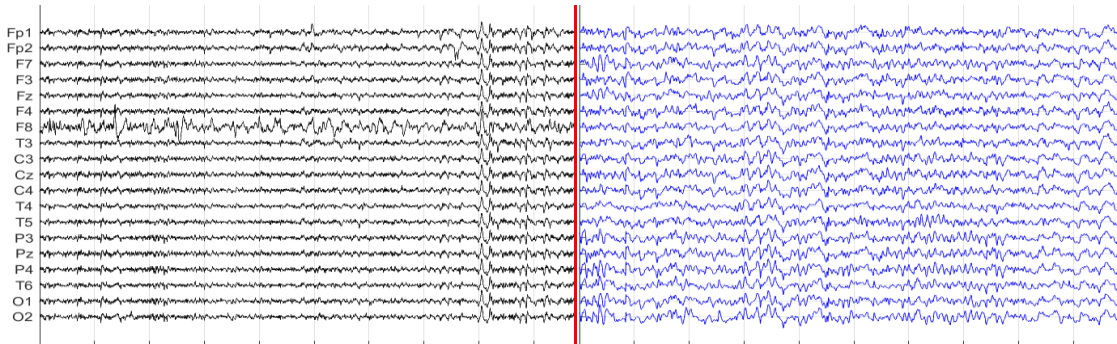
Name	Ghasem Esmaeili	Date of Recording	17-Aug-2024
Date of Birth - Age	25-Mar-1989 - 35.39	Gender	Male
Handedness(R/L)	Right	Source of Referral	Movasatschool
Initial Diagnosis	-		
Current Medication	Medication Free		

Movasatschool

Denoising Information (EC)

Raw EEG

Denoised EEG



Flat Channels

Rejected Channels

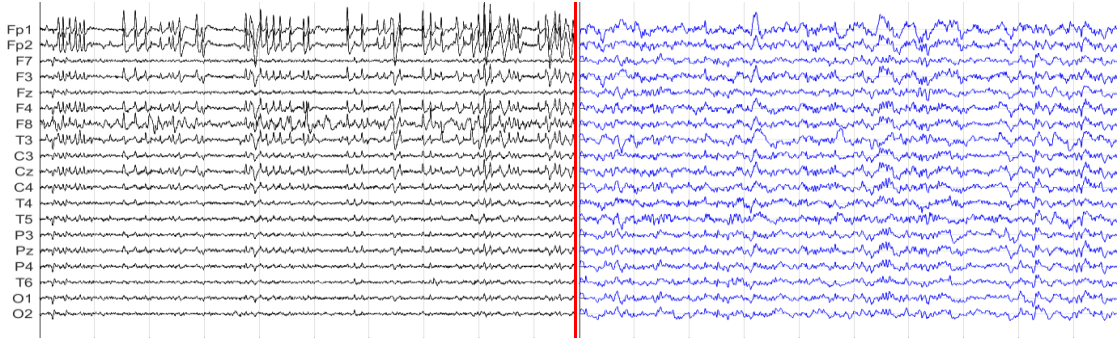


Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	1	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		bad		Total Recording Time Remaining	
				334.17 sec	

Denoising Information (EO)

Raw EEG

Denoised EEG



Flat Channels

Rejected Channels



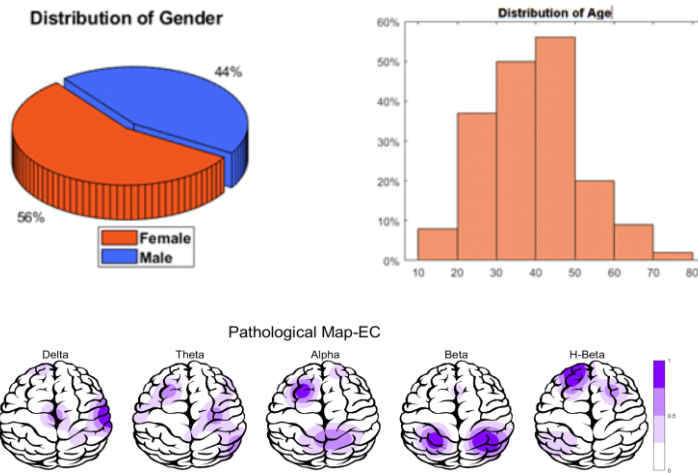
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	1	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		bad		Total Recording Time Remaining	
				285.60 sec	

rTMS Response Prediction

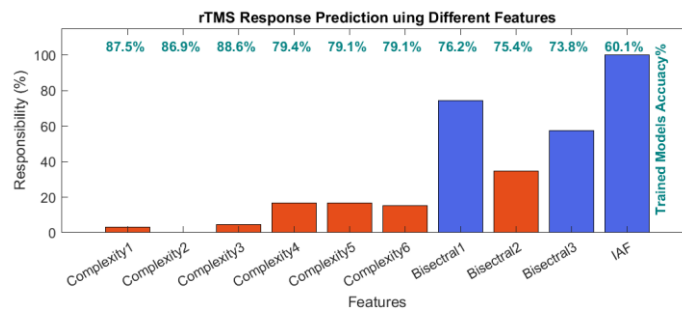
Network Performance

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

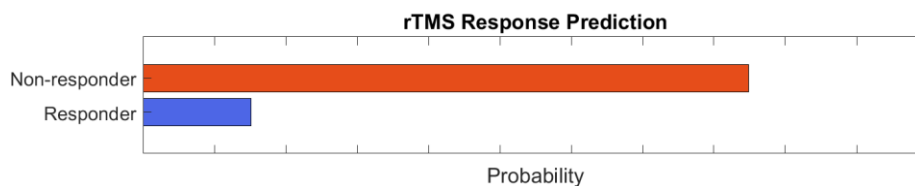
Participants Information



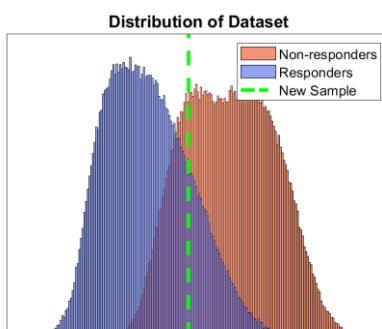
Features Information



Responsibility



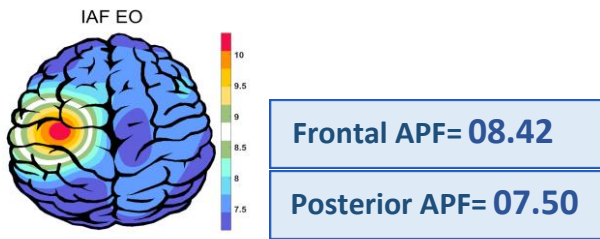
Data Distribution



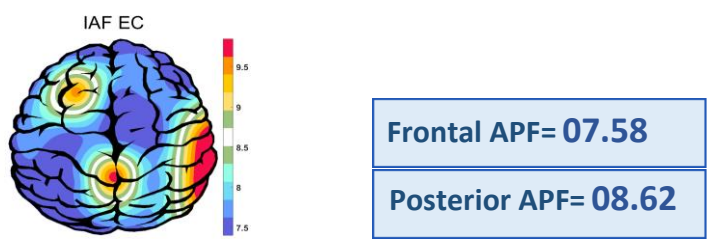
About Predicting rTMS Response

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.

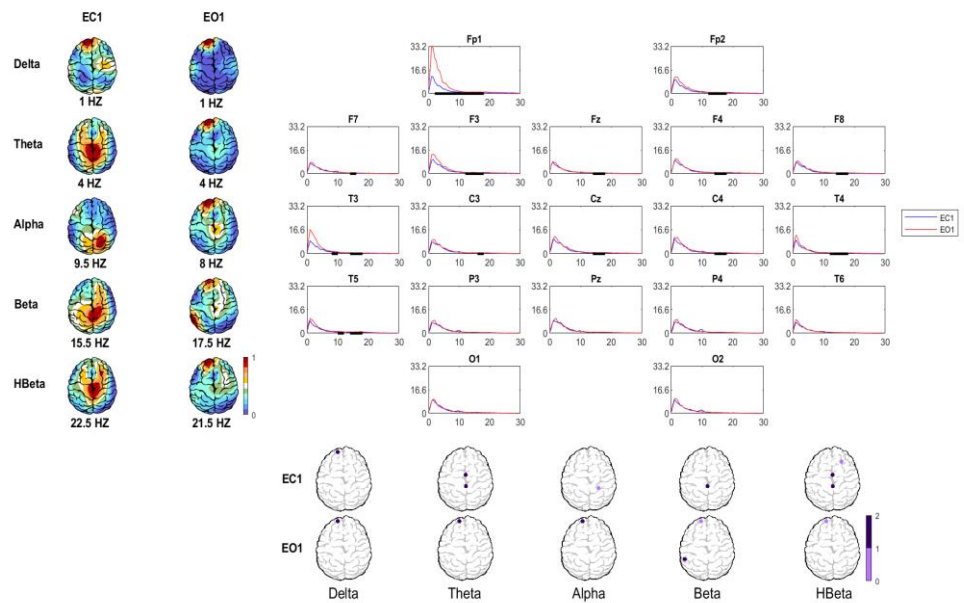
APF(EO)



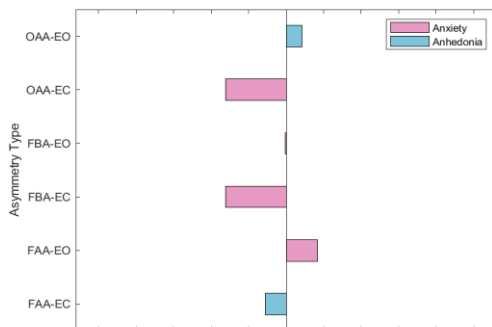
APF(EC)



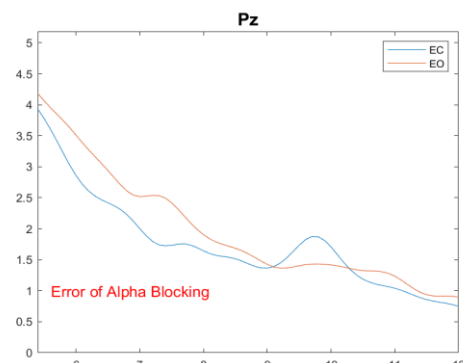
EEG Spectra



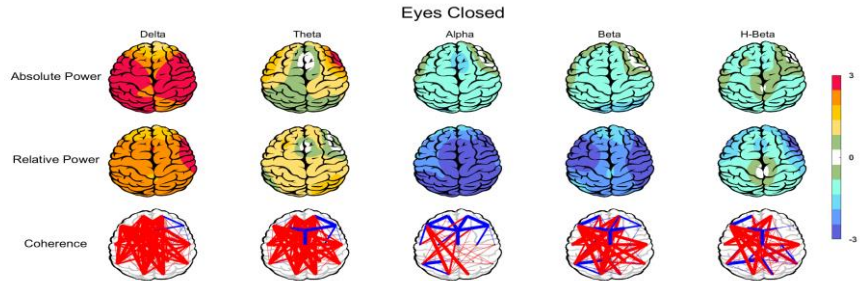
Alpha Asymmetry(AA)



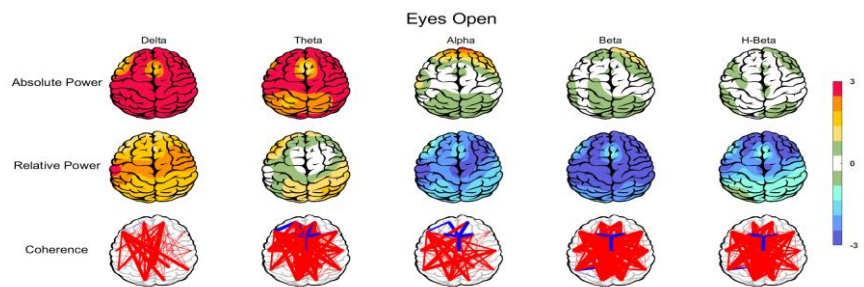
Alpha Blocking



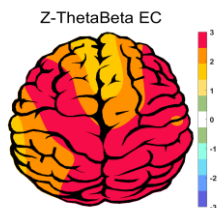
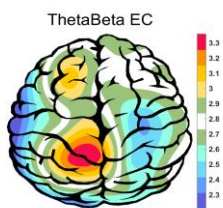
Z Score Summary Information (EC)



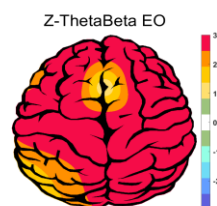
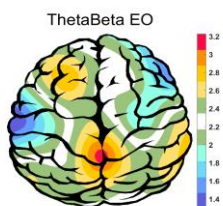
Z Score Summary Information (EO)



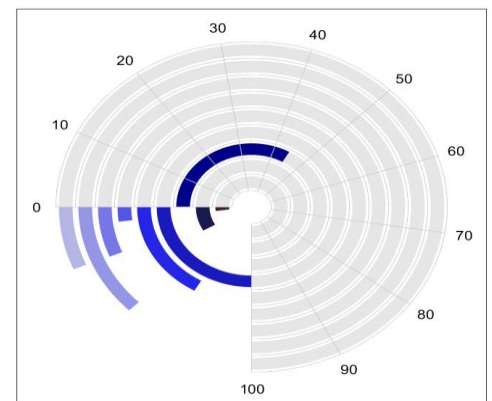
E.C.T/B Ratio (Raw- Z Score)



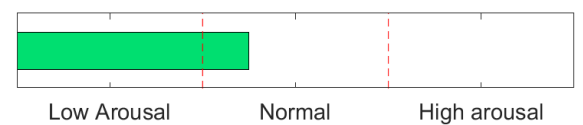
E.O.T/B Ratio (Raw- Z Score)



Arousal Level

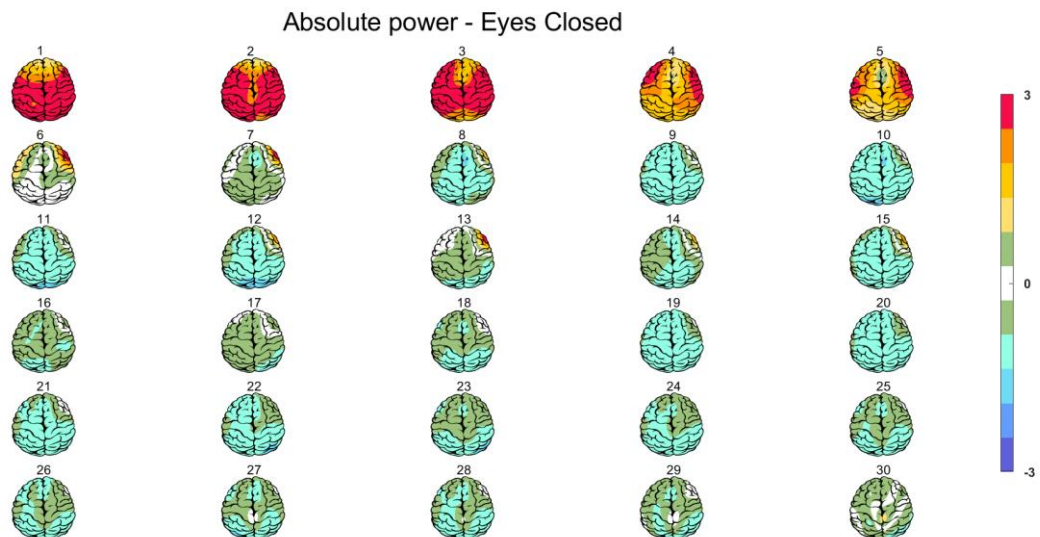


High beta, IAF, Right-posterior delta, Visual-area alpha, Frontal alpha, Prefrontal beta, Temporal beta, Occipital beta, Central beta

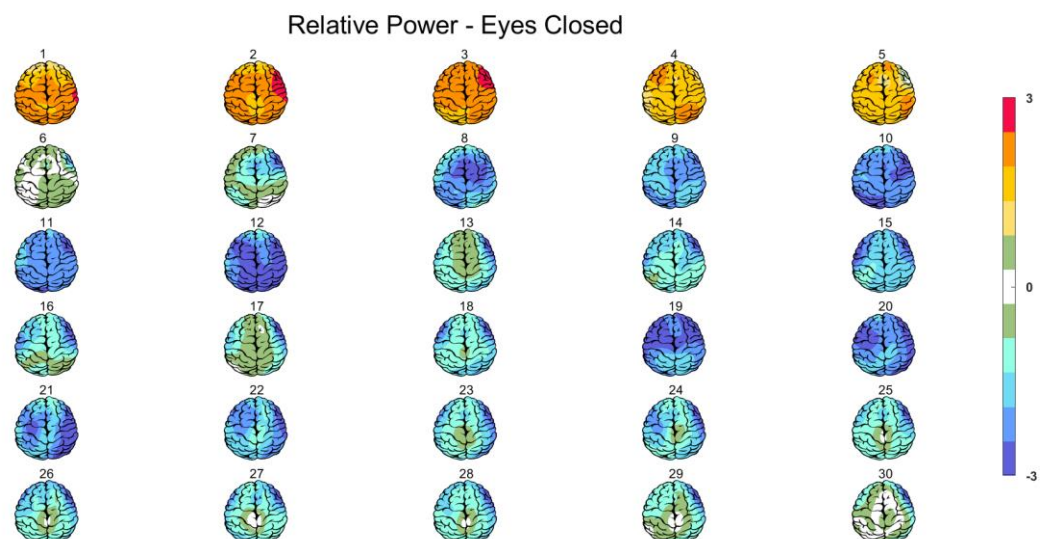


Low Arousal, Normal, High arousal

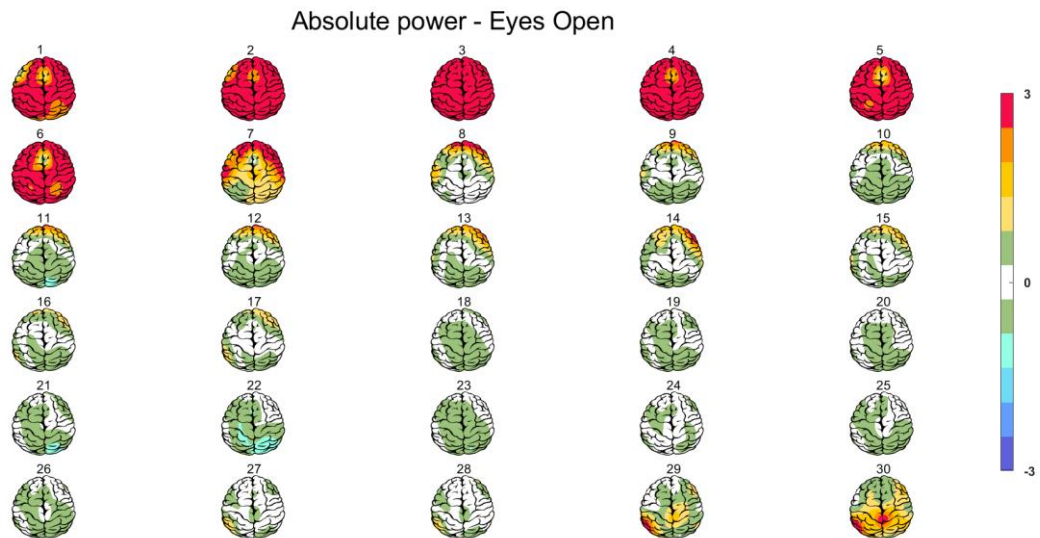
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)

