



QEEG Clinical Report

BrainLens V0.4

Report Description



Personal & Clinical Data

Name	Ali Rahimi	Date of Recording	2025-09-20
Date of Birth - Age	2010-03-03 - 15.55	Gender	Female
Handedness(R/L)	Right	Source of Referral	Ms Golshan
Initial Diagnosis	Depression		
Current Medication	-		

Ms Golshan

Summary Report

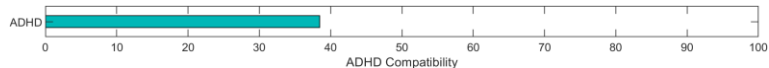
EEG Quality



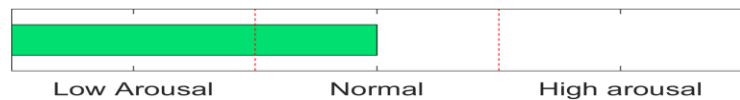
Z-score Information



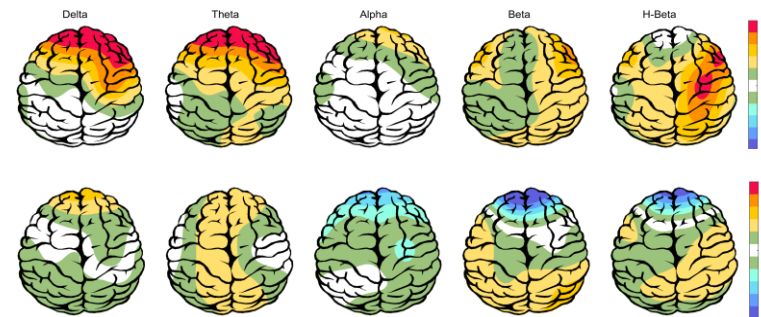
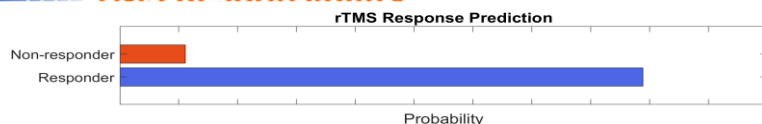
Compatibility with ADHD



Arousal Level



TMS Responsihilitv



Absolute Power
Relative Power

APF

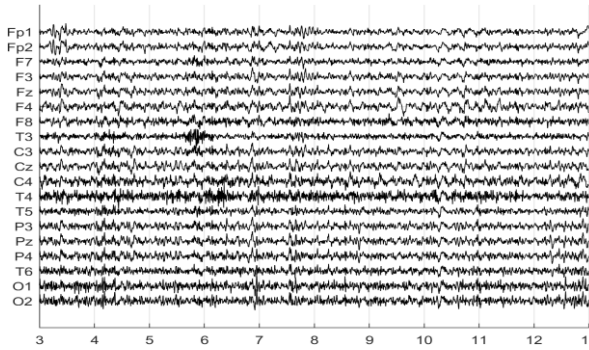
Posterior APF-EC= 10.50

Posterior APF-EO= 10.62

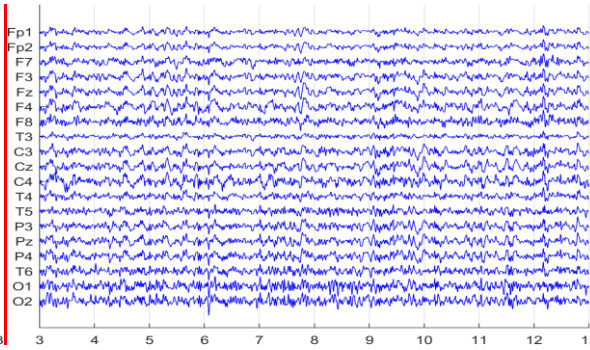
To investigate QEEG-based predicting medication response, please refer to the Report.

Denoising Information (EC)

Raw EEG



Denoised EEG



Flat Channels



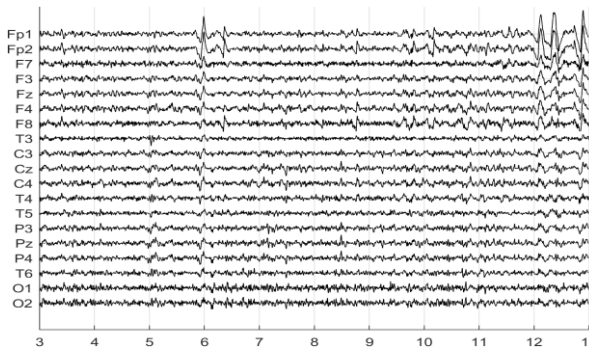
Rejected Channels



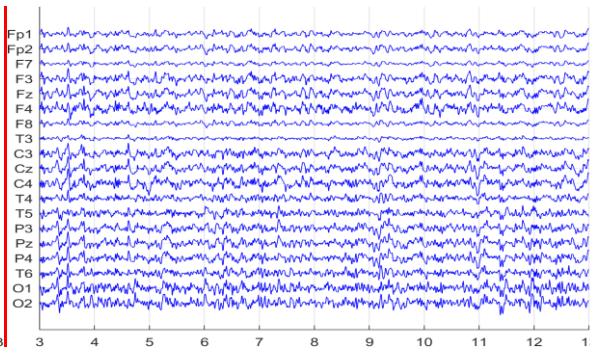
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	2	Muscle	2		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	139.24 sec

Denoising Information (EO)

Raw EEG



Denoised EEG



Flat Channels



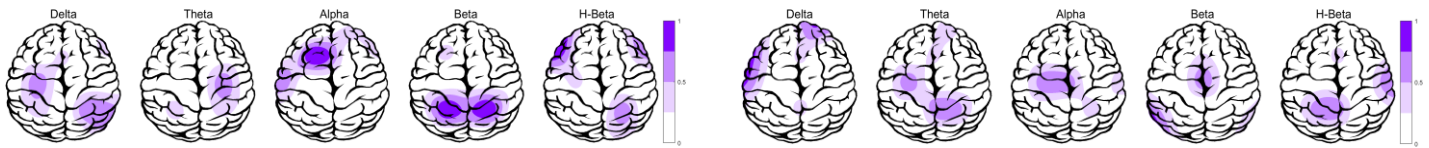
Rejected Channels



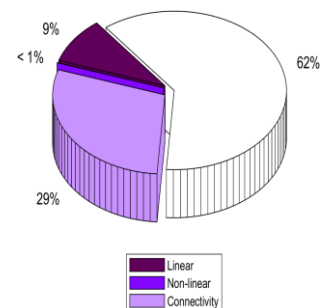
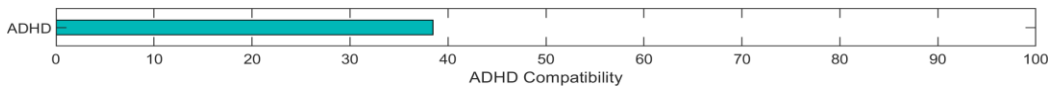
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	3	Muscle	3		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	127.90 sec

Pathological assessment for ADHD

Compare to ADHD Database



EEG Compatibility with ADHD Diagnosis



Arousal Level Detection



ADHD Clustering *

1. Prone to moody behavior and temper tantrums. May respond to stimulants, consider anticonvulsants or clonidine, avoid SSRI.
2. 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.

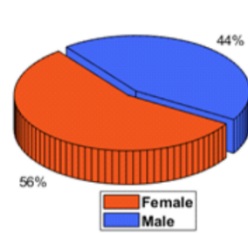
rTMS Response Prediction

Network Performance

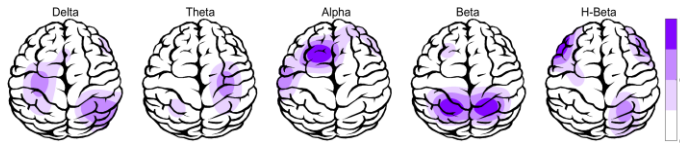
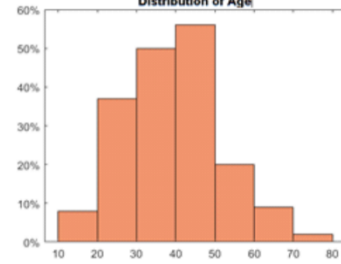
Accuracy: 92.1%
Sensitivity: 89.13%
Specificity: 97.47%

Participants Information

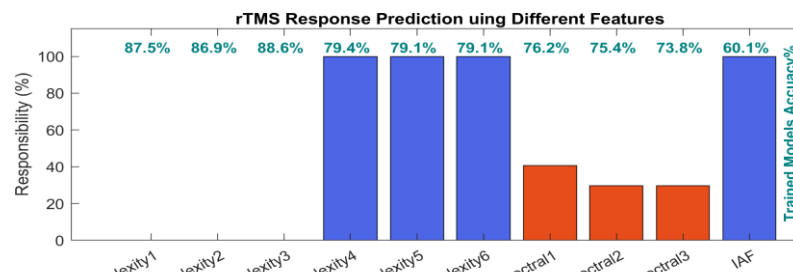
Distribution of Gender



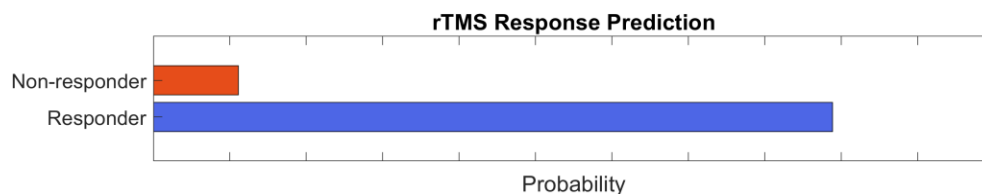
Distribution of Age



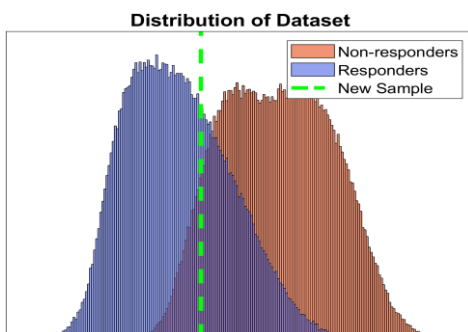
Features Information



Responsibility



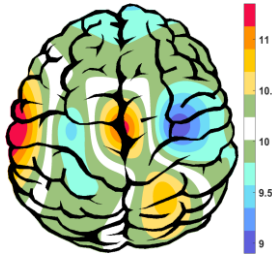
Data Distribution



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.

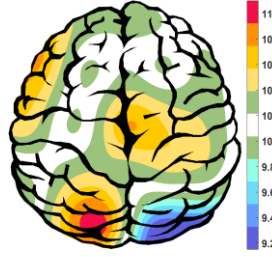
APF(EO)



Frontal APF= 09.50

Posterior APF= 10.62

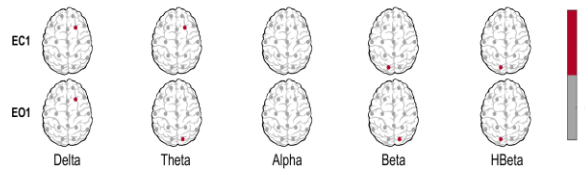
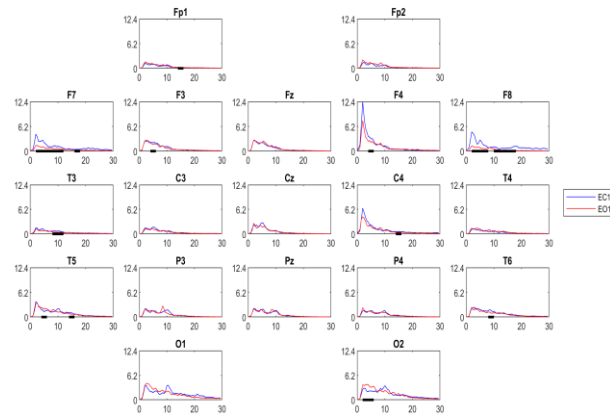
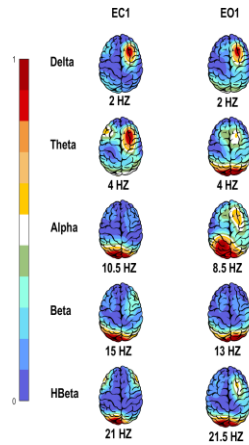
APF(EC)



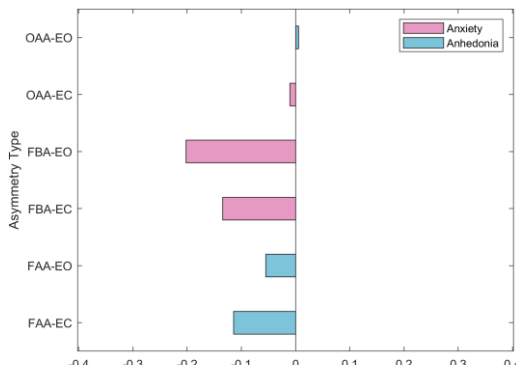
Frontal APF= 10.17

Posterior APF= 10.50

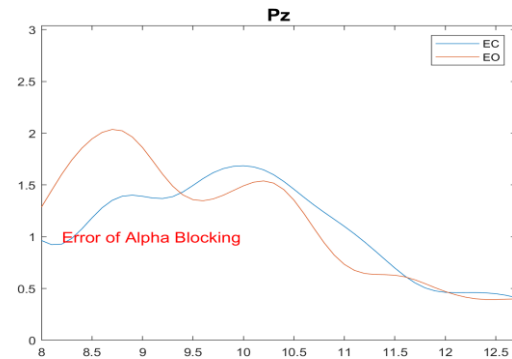
EEG Spectra



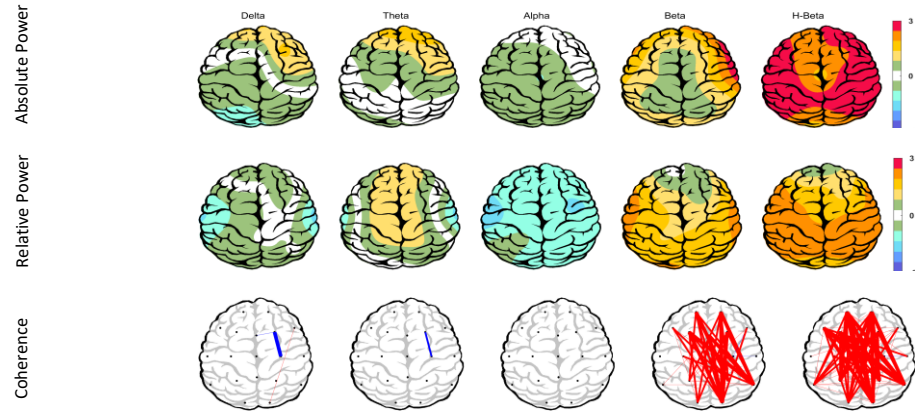
Alpha Asymmetry(AA)



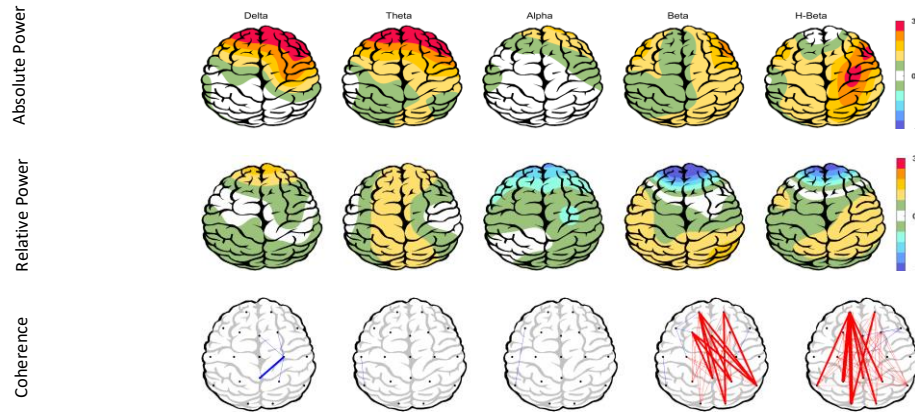
Alpha Blocking



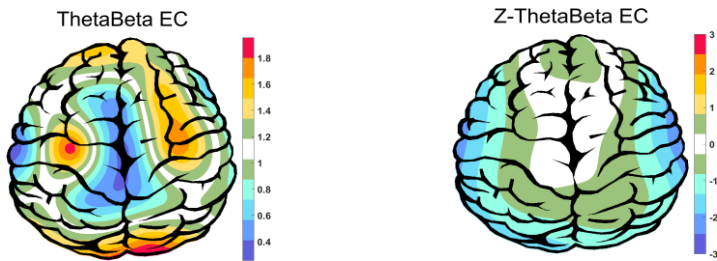
Z Score Summary Information (EC)



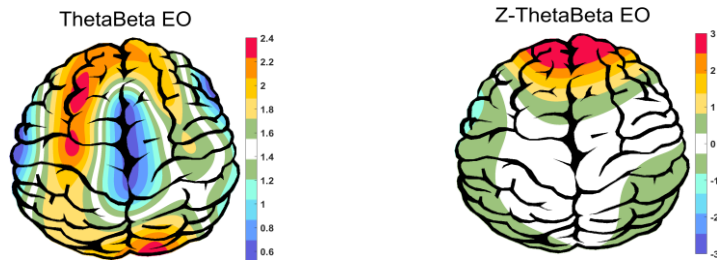
Z Score Summary Information (EO)



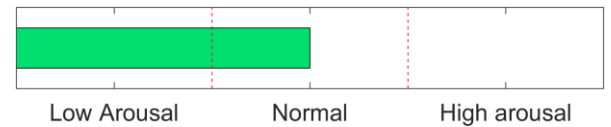
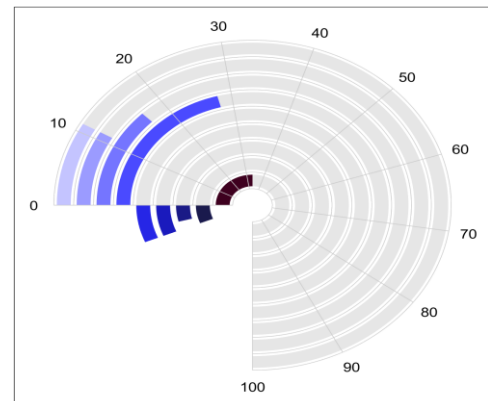
E.C.T/B Ratio (Raw- Z Score)



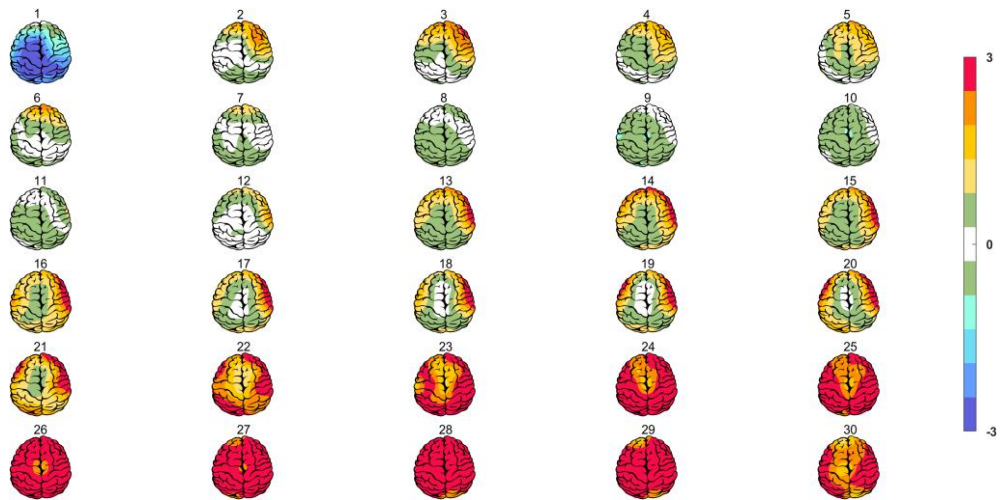
E.O.T/B Ratio (Raw- Z Score)



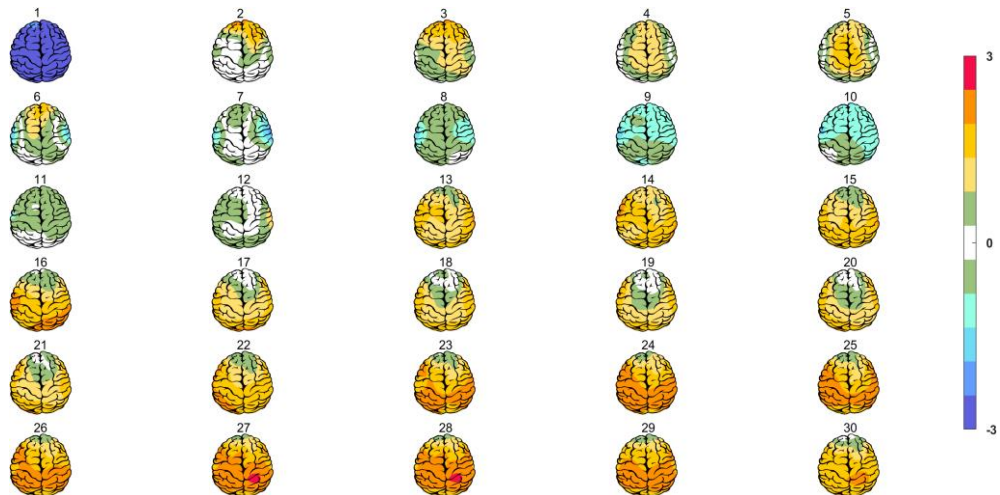
Arousal Level



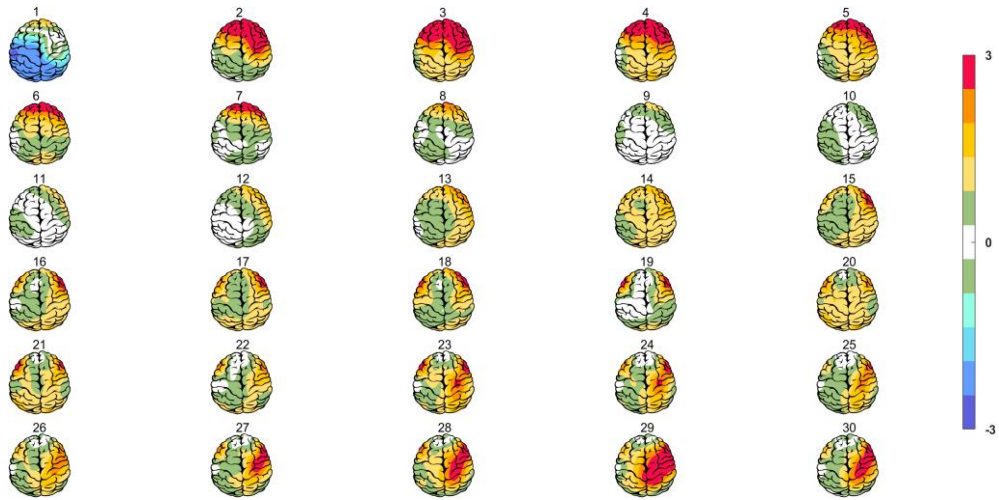
Absolute Power-Eye Closed (EC)



Relative Power-Eye Closed (EC)



Absolute Power-Eye Open (EO)



Relative Power-Eye Open (EO)

