
# QEEG Clinical Report

BrainLens V0.4

## Report Description

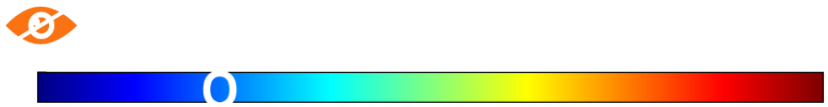
## Personal & Clinical Data

| | | | |
|---|---|---|---|
| Name | Sara Ghanbari | Date of Recording | 05-Jan-2025 |
| Date of Birth - Age | 21-Jun-1978 - 46.54 | Gender | Female |
| Handedness(R/L) | Right | Source of Referral | Ms Aliakbari |
| Initial Diagnosis | Body Tremors | | |
| Current Medication | Alprazolam-Folic acid-Gabapentin-Nisopred | | |

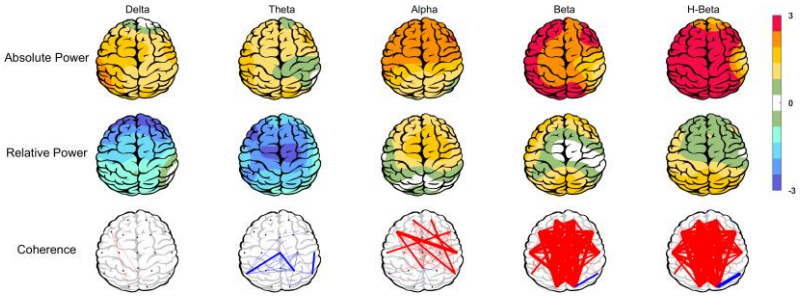
Ms Aliakbari

# Summary Report

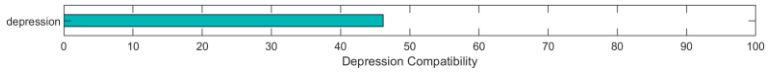
## EEG Quality



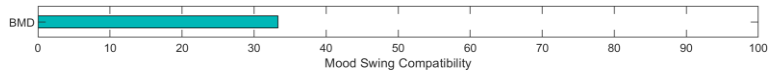
## Z-score Information



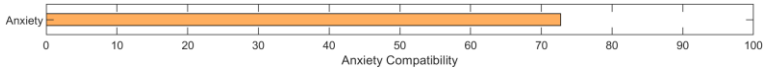

## Compatibility with Depression



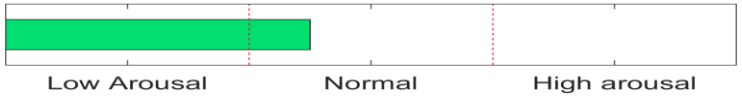

## Compatibility with Mood Swing



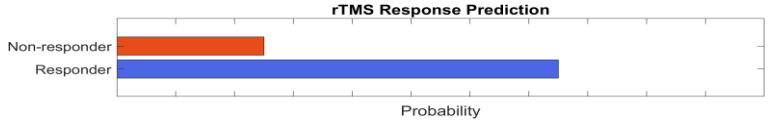

## Compatibility with Anxiety



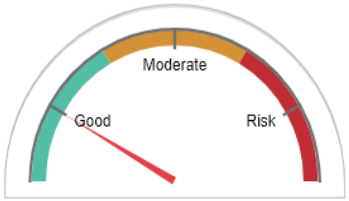

## Arousal Level




## TMS Responsibility




## Cognitive Performance




## APF

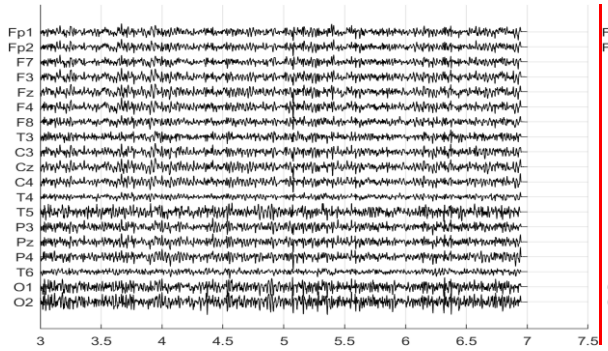
**Posterior APF-EC= 11.50**

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

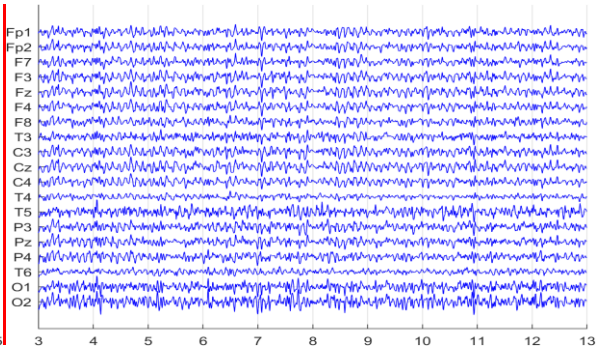
Sara Ghanbari\Ms Aliakbari

# 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** | bad | | | **Total Recording Time Remaining** 24.99 sec |

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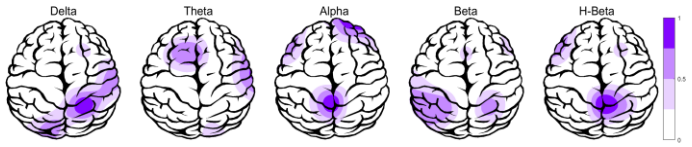
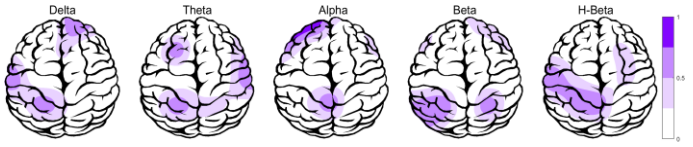
# Pathological assessment for mood disorders and adult ADHD

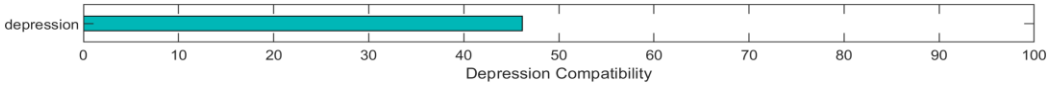
## Compare to Mood Disorders Database

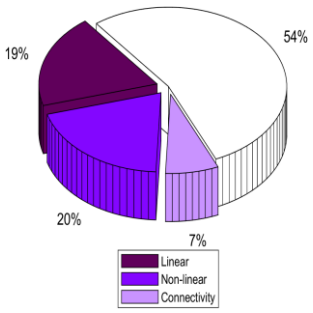



## Compare to Adult ADHD Database

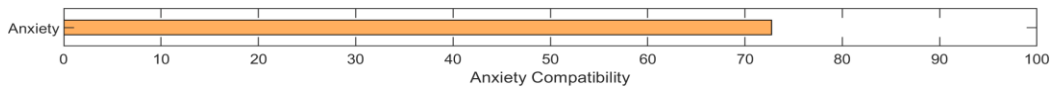


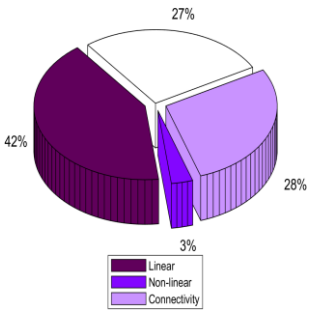

## EEG Compatibility with Depression Diagnosis



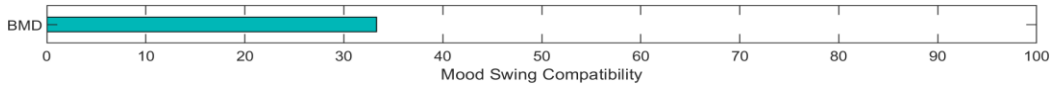



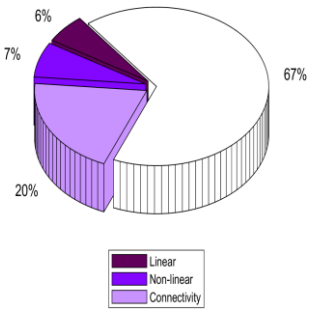

## EEG Compatibility with Anxiety Diagnosis



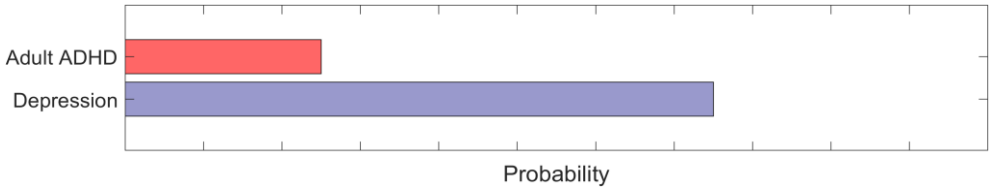

## EEG Compatibility with Mood Swing Diagnosis *



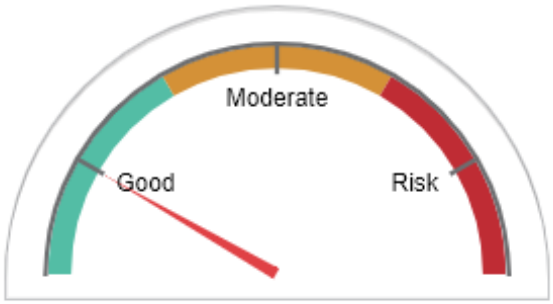




* This index can only be investigated if there are symptoms of mood swings (R/O BMD or R/O mood swings).

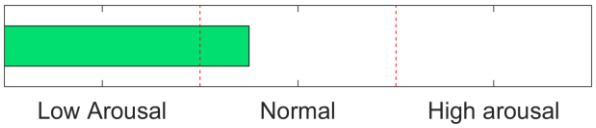
## Depression and Adult ADHD Diagnosis Probabiliy




## Cognitive Functions Asessment




## Arousal Level Detection



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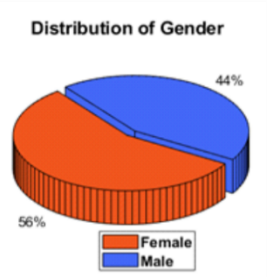
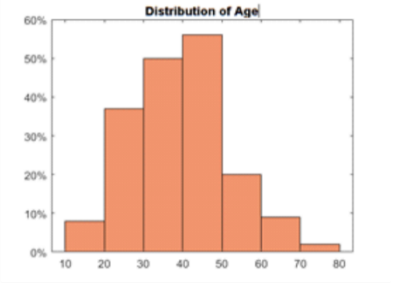
# rTMS Response Prediction

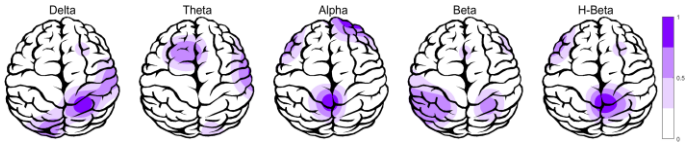
## Network Performance

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

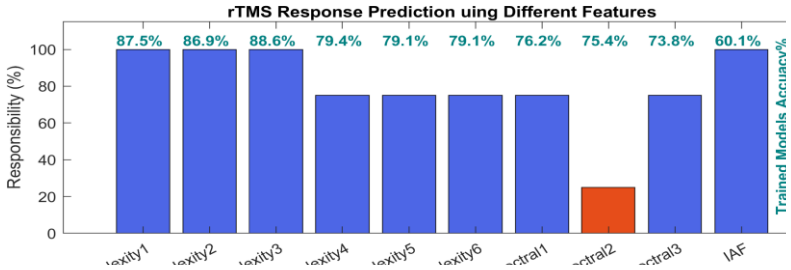
## Participants Information



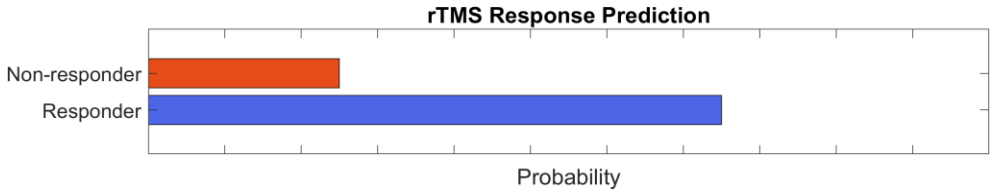



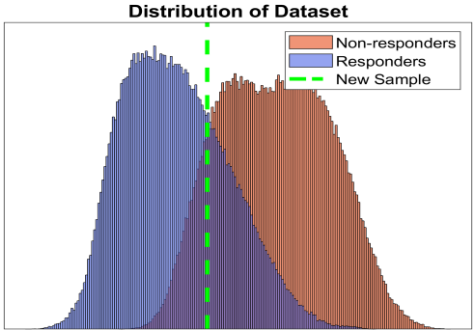

## Features Information




## 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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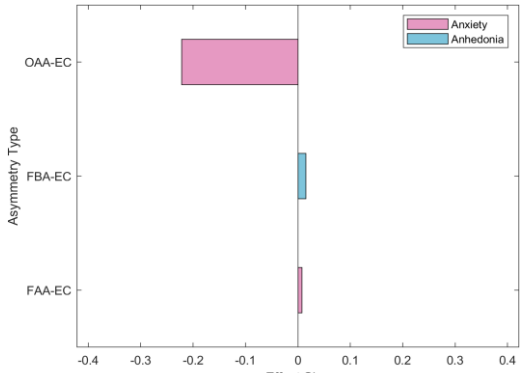
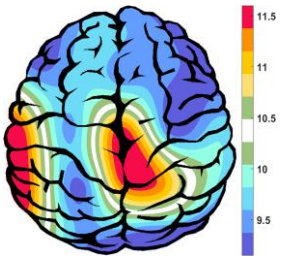
## Alpha Asymmetry(AA)




## APF(EC)

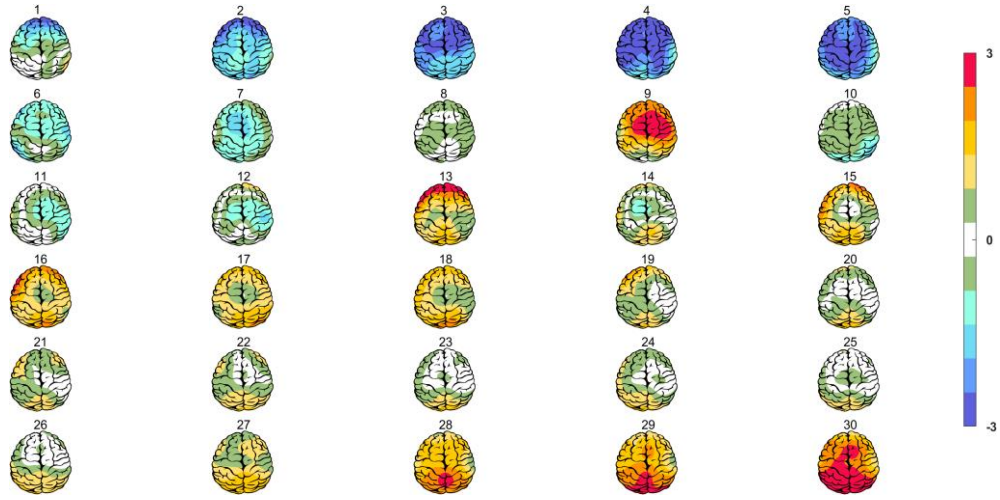



**Frontal APF= 09.42**

**Posterior APF= 11.50**

## Absolute Power-Eye Closed (EC)


## Relative Power-Eye Closed (EC)



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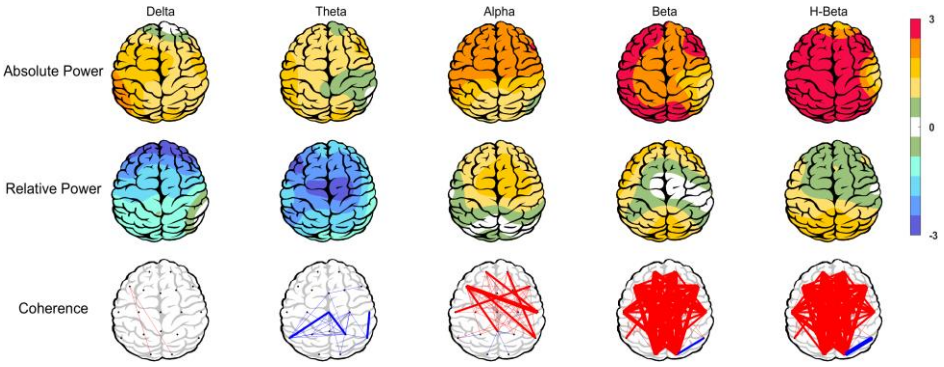
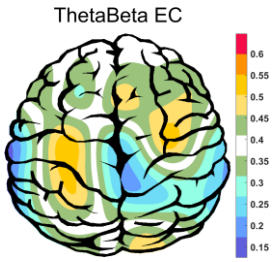
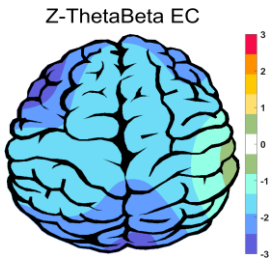
## Z Score Summary Information (EC)

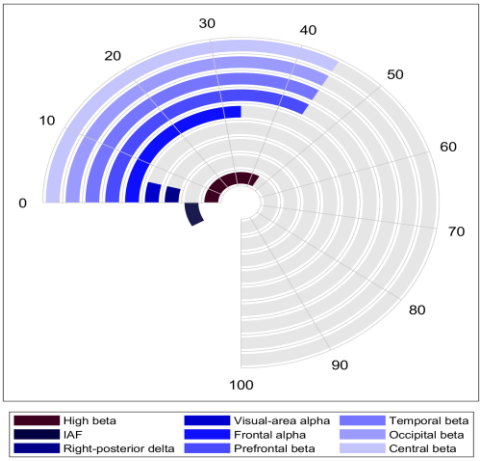


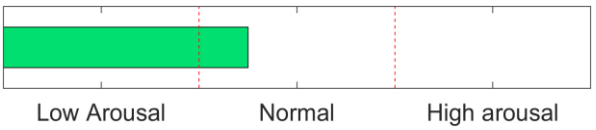

## E.C.T/B Ratio ( Raw- Z Score)




## Arousal Level




## EEG Spectra