
# QEEG Clinical Report

BrainLens V0.4

## Report Description

## Personal & Clinical Data

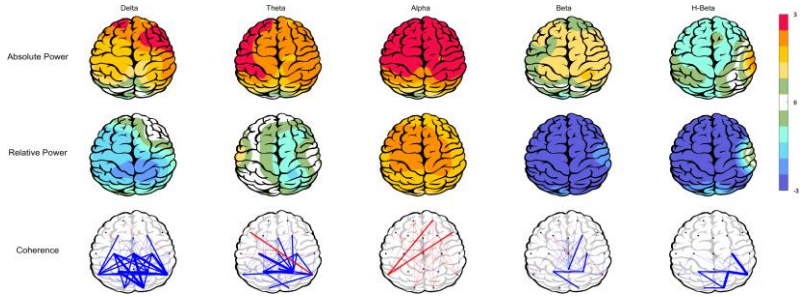
| | | | |
|---|---|---|---|
| Name | Mahmoud Afzali | Date of Recording | 23-Feb-2025 |
| Date of Birth - Age | 21-Mar-1973 - 51.92 | Gender | Male |
| Handedness(R/L) | Right | Source of Referral | Dr Mina Dehghani |
| Initial Diagnosis | Initial Assessment | | |
| Current Medication | - | | |

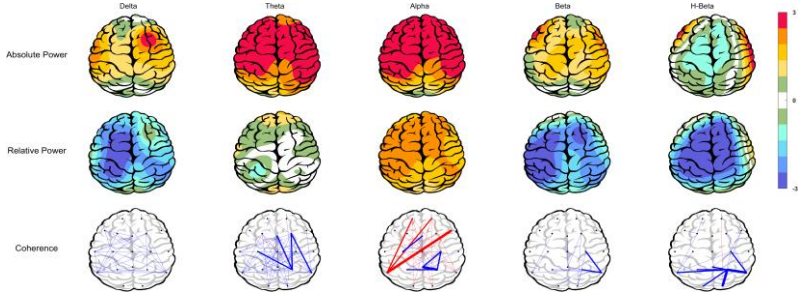
Dr Mina Dehghani

# Summary Report

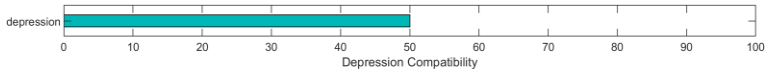
## EEG Quality

## Z-score Information

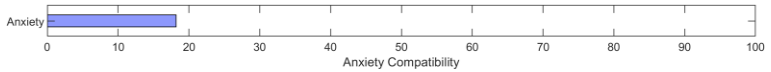


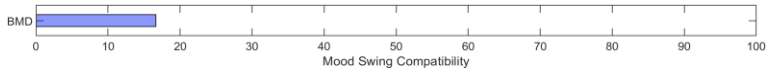

## Compatibility with Depression



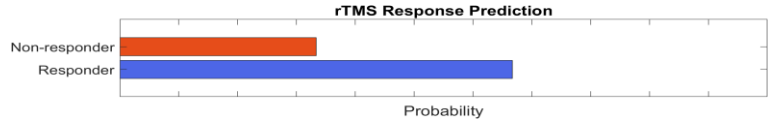

## Compatibility with Anxiety



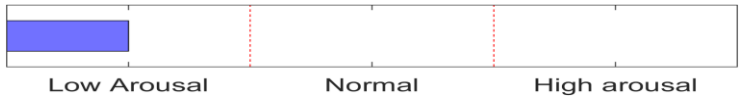

## Compatibility with Mood Swing




## TMS Responsibility




## Arousal Level




## Cognitive Performance


## APF

**Posterior APF-EC= 09.38**

**Posterior APF-EO= 09.25**

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

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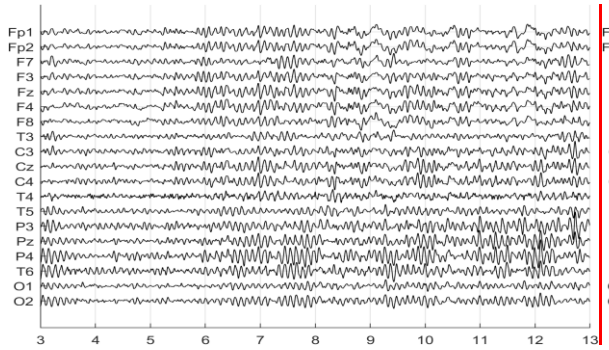
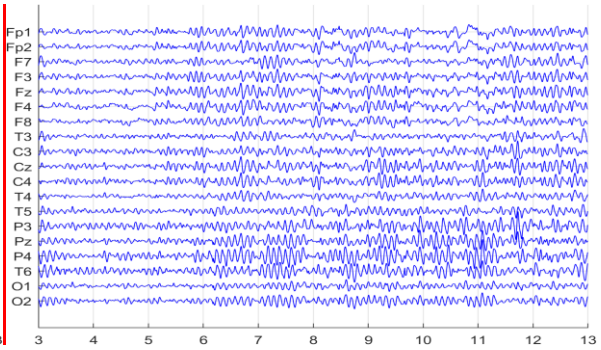
## Denoising Information (EC)

### Raw EEG

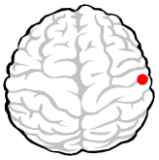



### Denoised EEG




### Flat Channels

### Rejected Channels

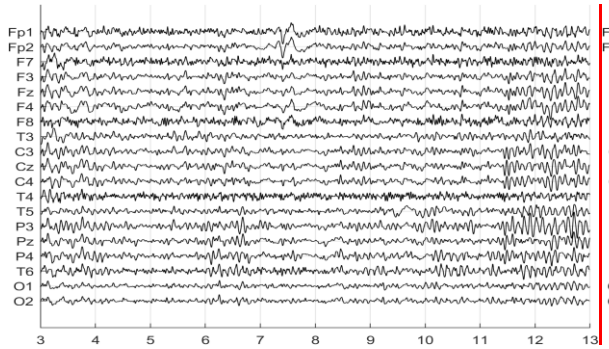


| Number of Eye and Muscle Elements | | | |
|---|---|---|---|
| Eye | 0 | Muscle | 0 |
| Total Artifact Percentage | | | |
| EEG Quality | bad | | |

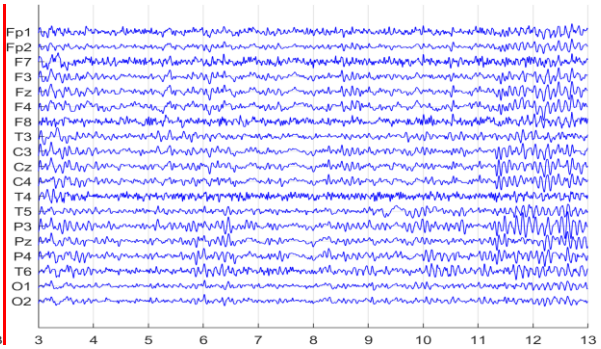
| Low Artifact Percentage | |
|---|---|
| High Artifact Percentage | |
| Total Recording Time Remaining | 31.54 sec |

## Denoising Information (EO)

### Raw EEG




### Denoised EEG




### Flat Channels

### Rejected Channels

| Number of Eye and Muscle Elements | | | |
|---|---|---|---|
| Eye | 1 | Muscle | 0 |
| Total Artifact Percentage | | | |
| EEG Quality | bad | | |

| Low Artifact Percentage | |
|---|---|
| High Artifact Percentage | |
| Total Recording Time Remaining | 70.57 sec |

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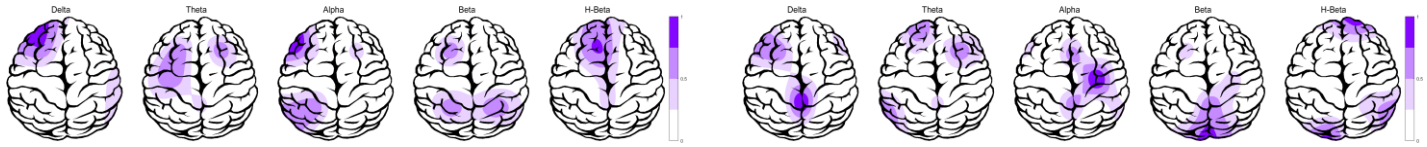
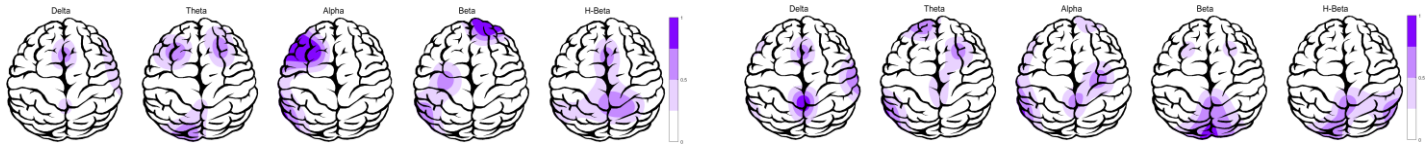
# Pathological assessment for mood disorders and adult ADHD

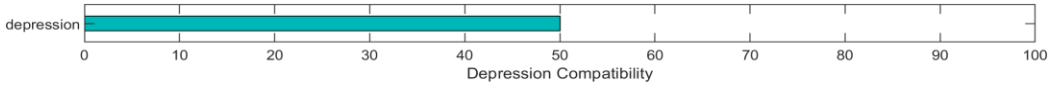
## Compare to Mood Disorders Database

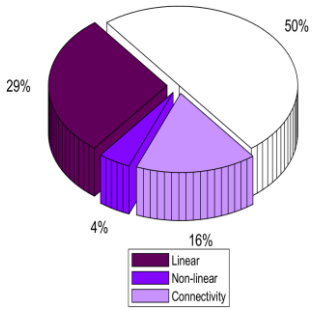



## Compare to Adult ADHD Database

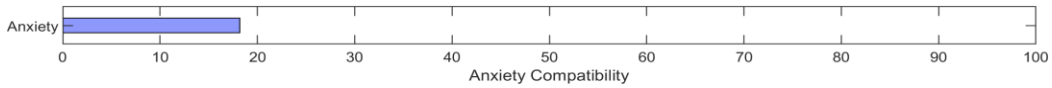


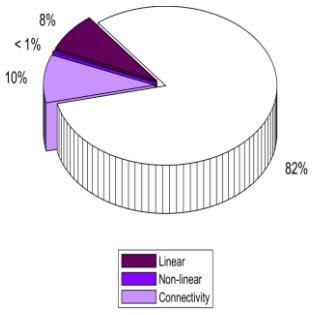

## EEG Compatibility with Depression Diagnosis



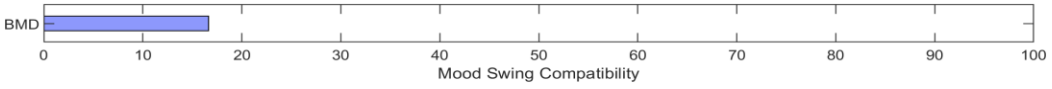



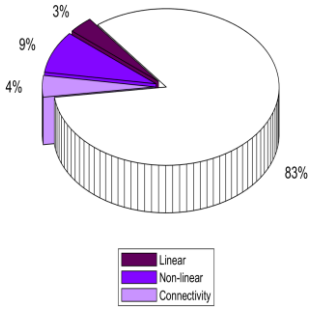

## EEG Compatibility with Anxiety Diagnosis



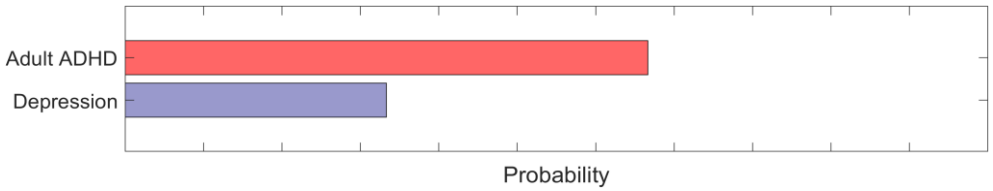

## EEG Compatibility with Mood Swing Diagnosis *



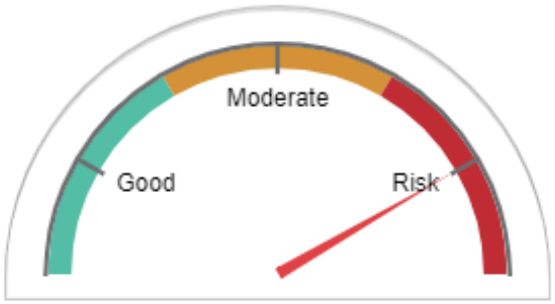




* This index can only be investigated if there are symptoms of mood swings (R/O BMD or R/O mood swings).

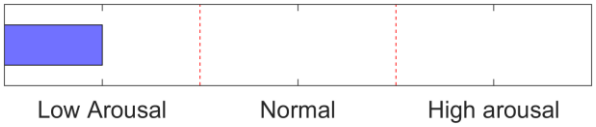
## Depression and Adult ADHD Diagnosis Probabiliy



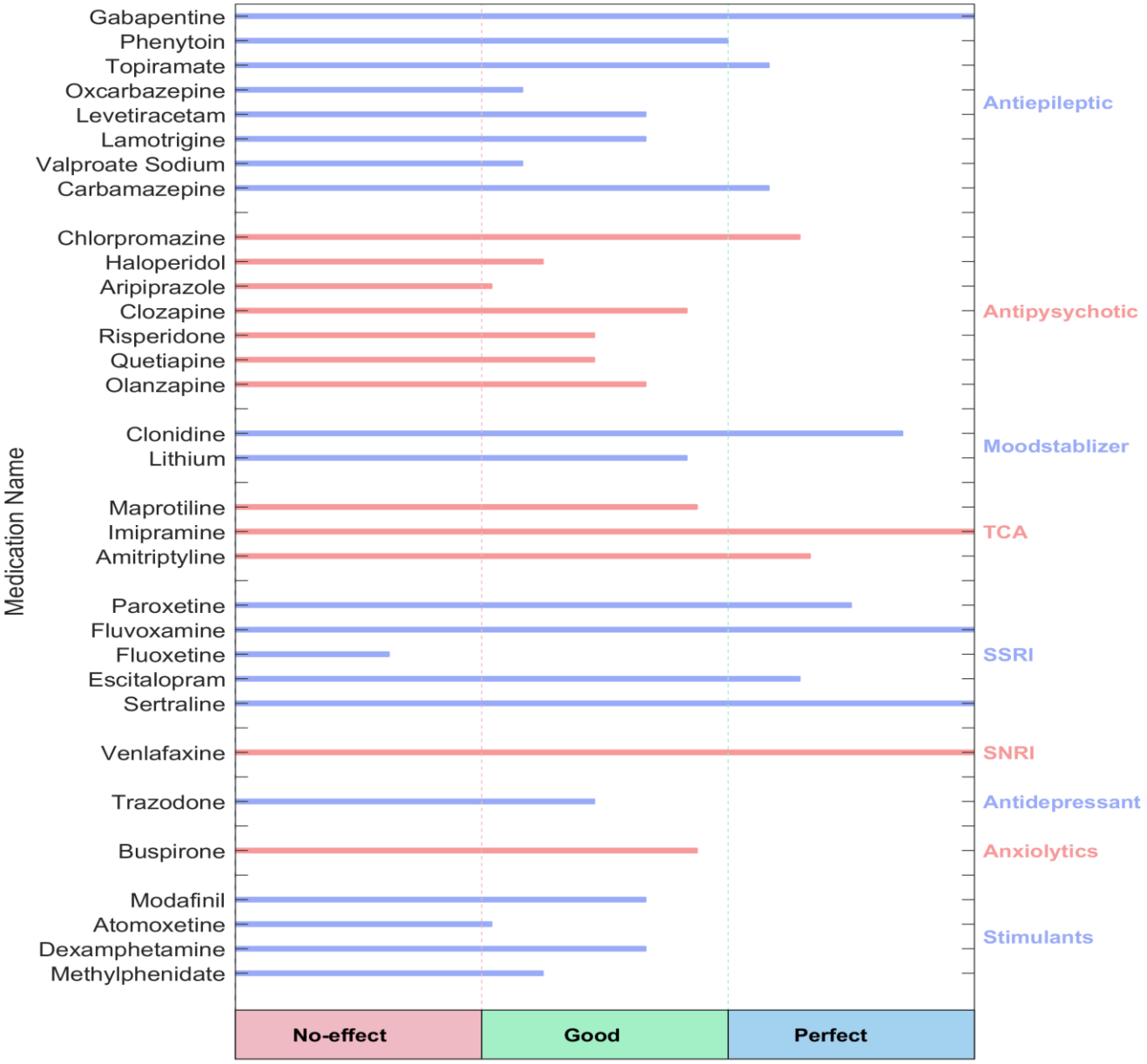

## Cognitive Functions Asessment




## Arousal Level Detection



## 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.

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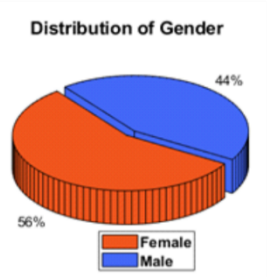
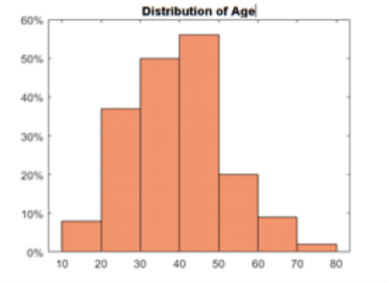
# rTMS Response Prediction

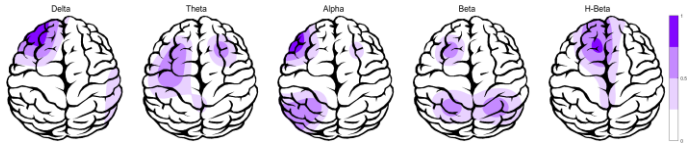
## Network Performance

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

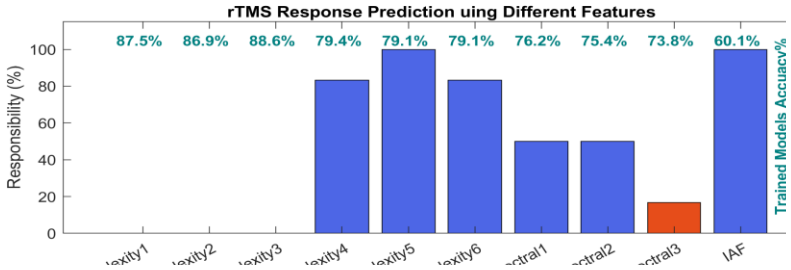
## Participants Information



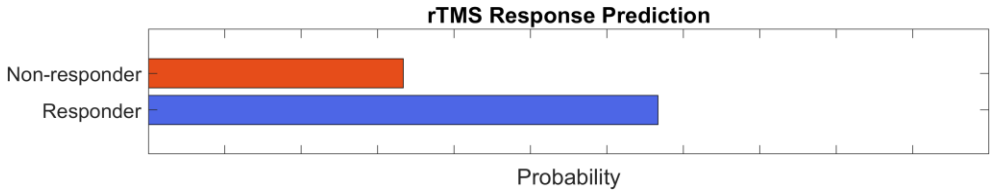



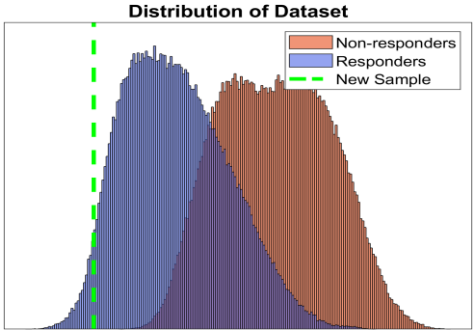

## Features Information




## 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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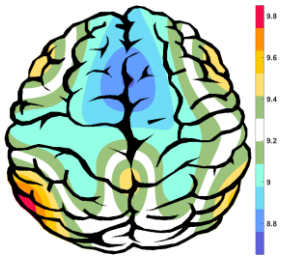
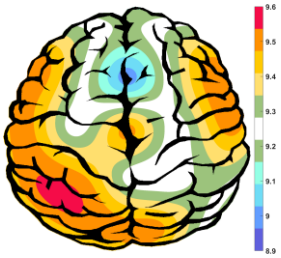
## APF(EO)



Frontal APF= 09.00

Posterior APF= 09.25

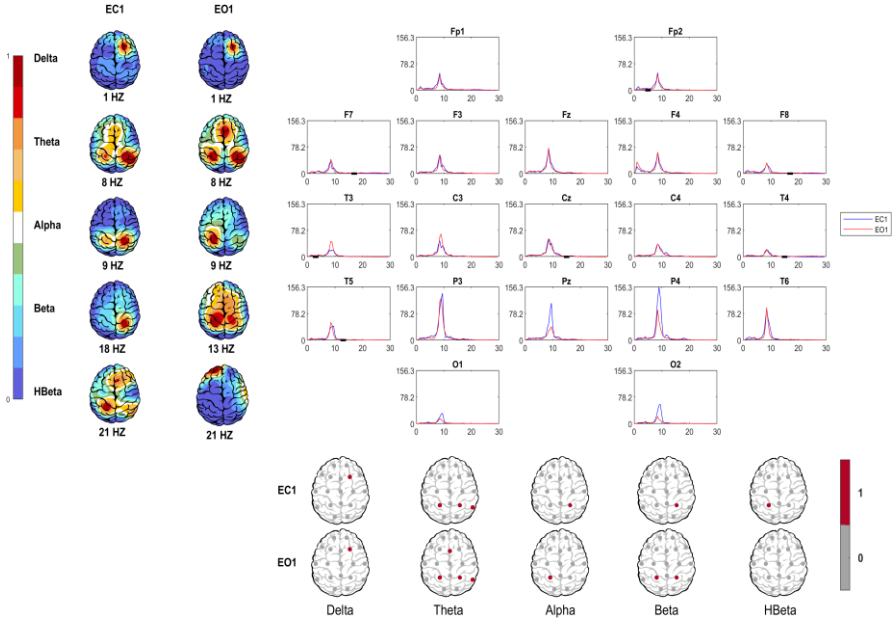
## APF(EC)



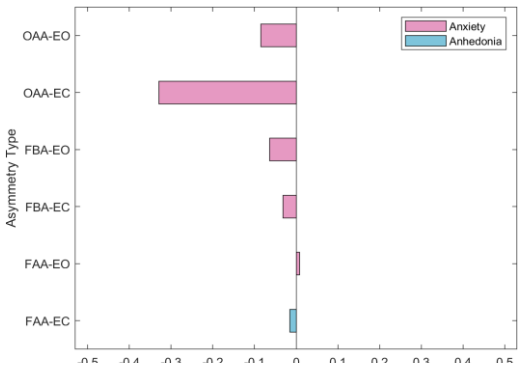
Frontal APF= 09.25

Posterior APF= 09.38

## EEG Spectra




## Alpha Asymmetry(AA)




## Alpha Blocking

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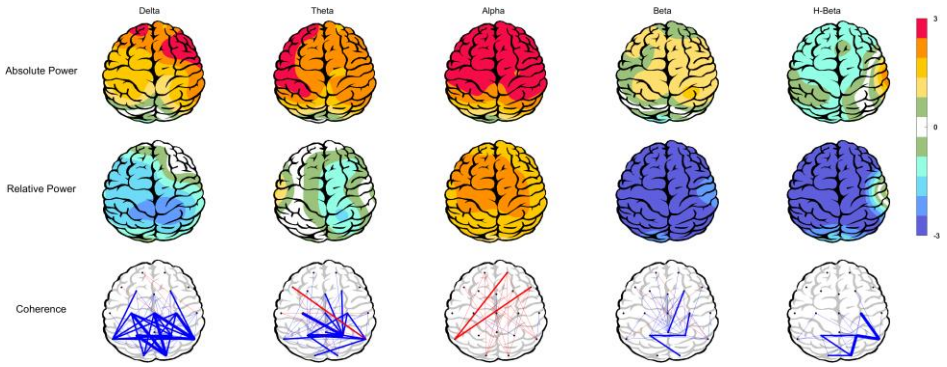
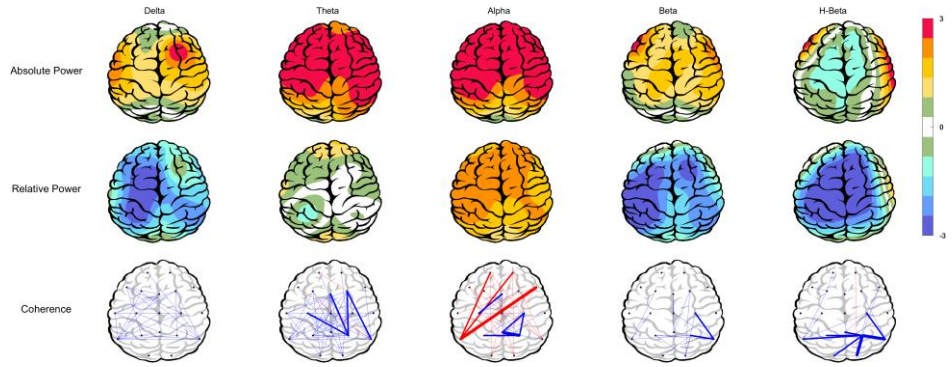
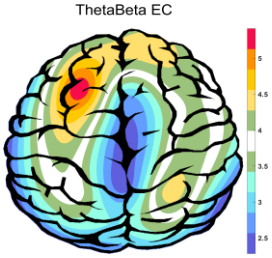
## Z Score Summary Information (EC)

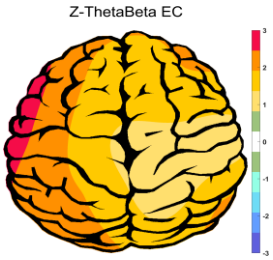



## Z Score Summary Information (EO)

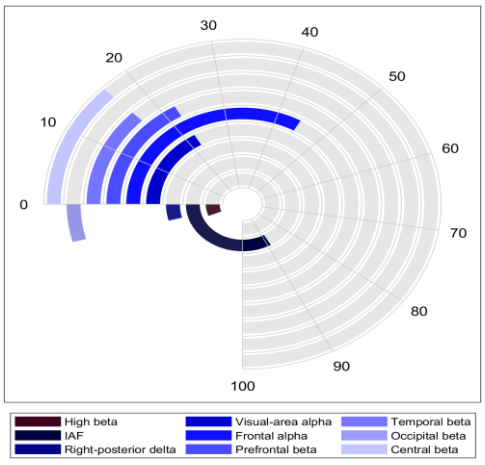



## E.C.T/B Ratio ( Raw- Z Score)

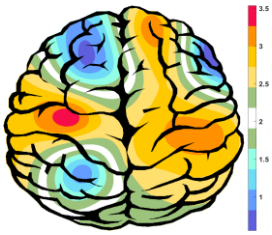


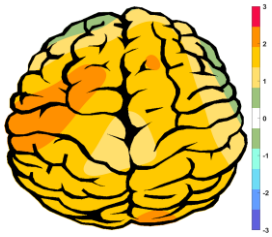



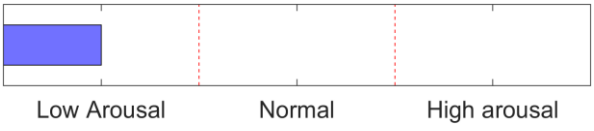

## Arousal Level




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



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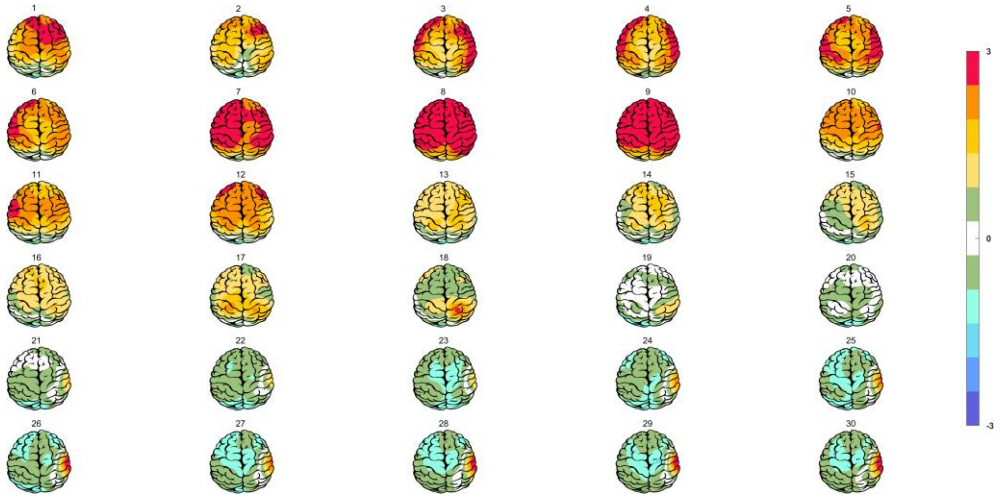
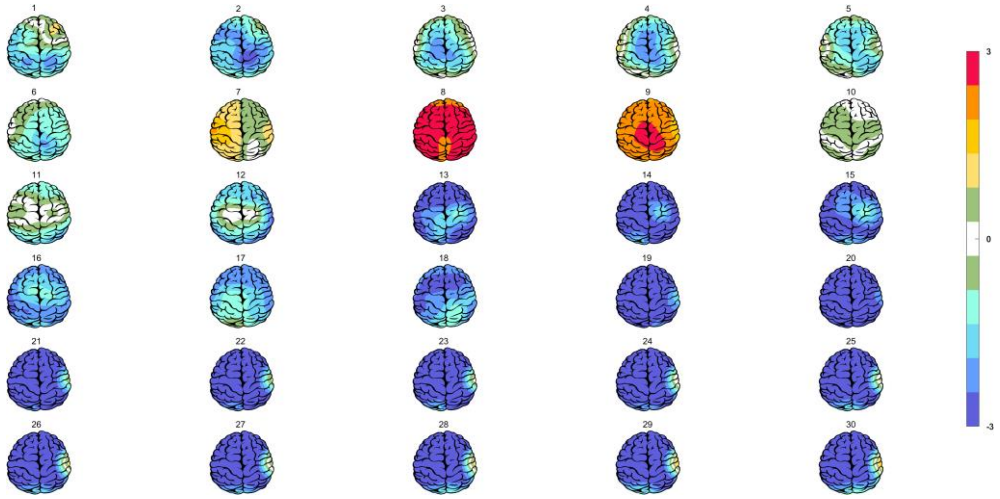
## Absolute Power-Eye Closed (EC)




## Relative Power-Eye Closed (EC)



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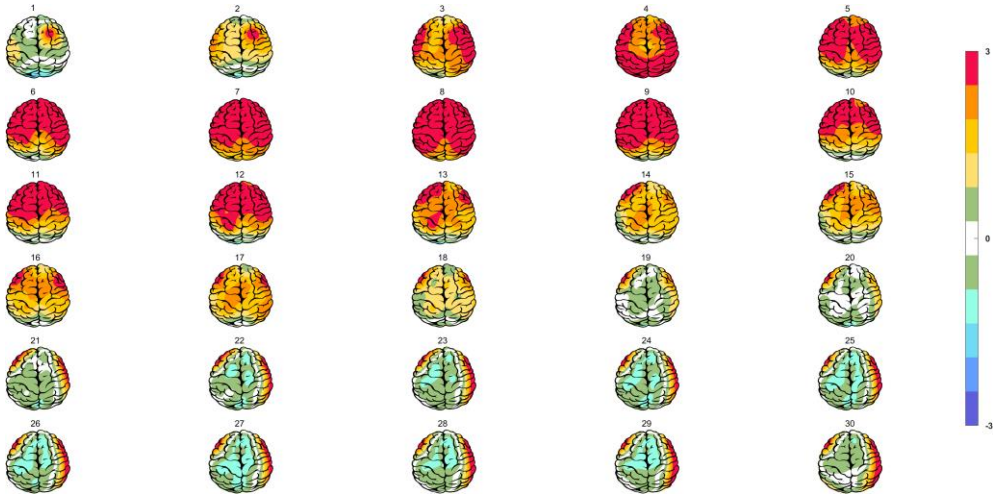
## Absolute Power-Eye Open (EO)




## Relative Power-Eye Open (EO)