# QEEG Clinical Report

EEGLens

The QEEG report is provided by NPCindex Company, operating under the QEEGhome brand.

## Personal Data:

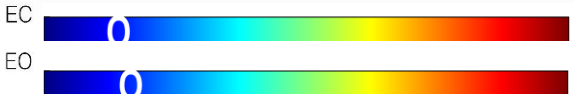
Name: Mohsen Esmaili
Gender: Male
Age: 1981-09-21 - 44.1
Handedness: Right

## Clinical Data:

Initial diagnosis: ADHD
Medication: -
Date of Recording: 2025-10-13
Source of Referral: Dr Saemeh Khani

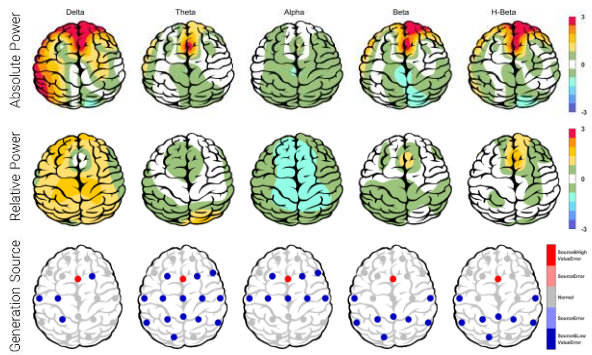
This case belongs to Dr Saemeh Khani

## EEG Quality

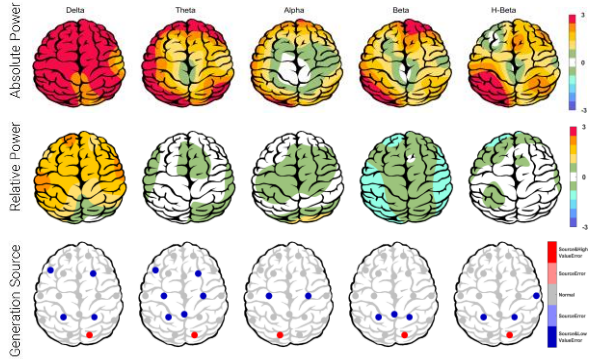



## Z-score Information

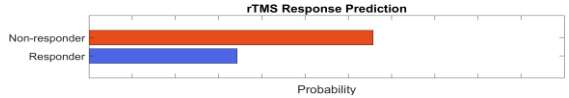
EC



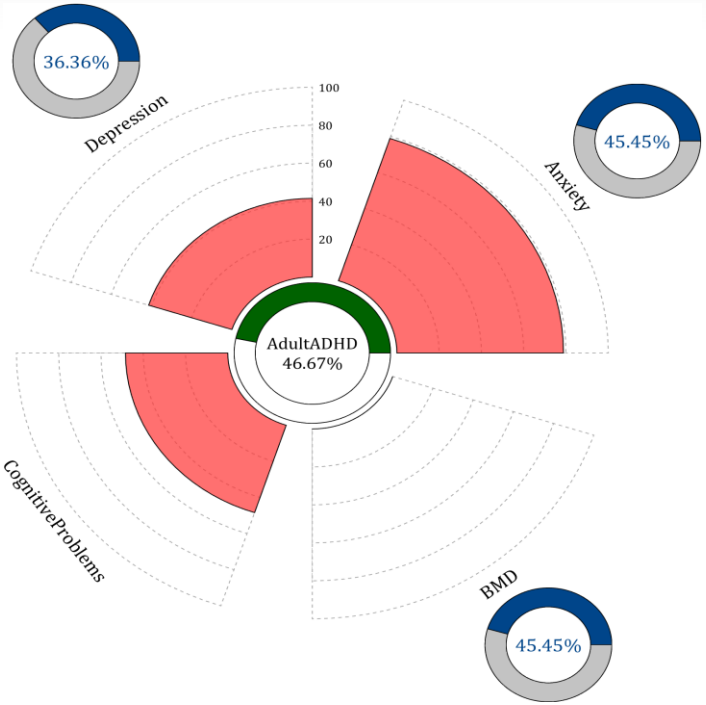

EO




## TMS Reponsibility




## Pathological Assessment



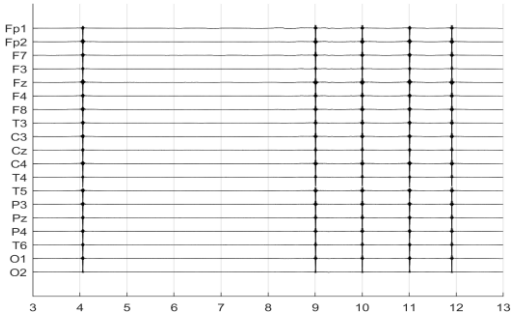

## EEG Neuromarker Values

| Neuromarker | Region | Value | Assessment |
|---|---|---|---|
| APF - EO | Frontal | 09.67 | Normal |
| AFP - EC | Frontal | 10.17 | Normal |
| APF - EO | Occipital | 09.50 | Low |
| AFP - EC | Occipital | 10.12 | Normal |
| Arousal Level - EO | - | - | Normal |
| Arousal Level - EC | - | - | Normal |

# Denoising Information

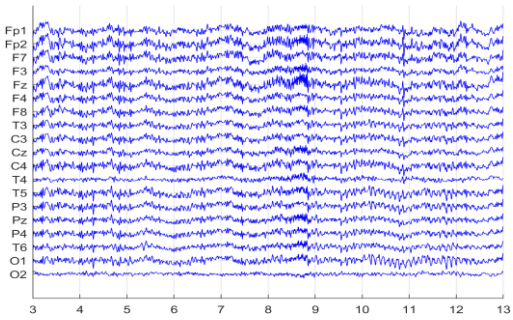
## Eye Close

Raw EEG




Rejected Channel

Denoised EEG




Flat Channel

**Total Recording Time Remaining:**
508.78 sec

**Number of Eye and Muscle Elements**
Eye: 6
Muscle: 0

Low Artifact Percentage

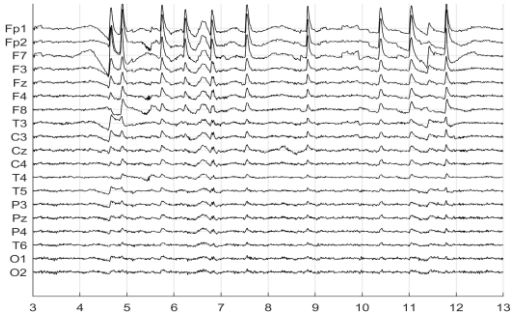
High Artifact Percentage

Total Artifact Percentage

**EEG Quality:** good

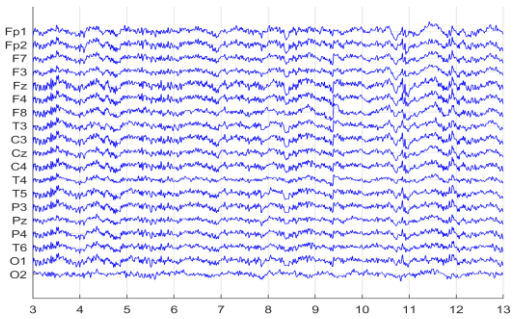
## Eye Open

Raw EEG




Rejected Channel

Denoised EEG




Flat Channel

**Total Recording Time Remaining:**
631.16 sec

**Number of Eye and Muscle Elements**
Eye: 3
Muscle: 1

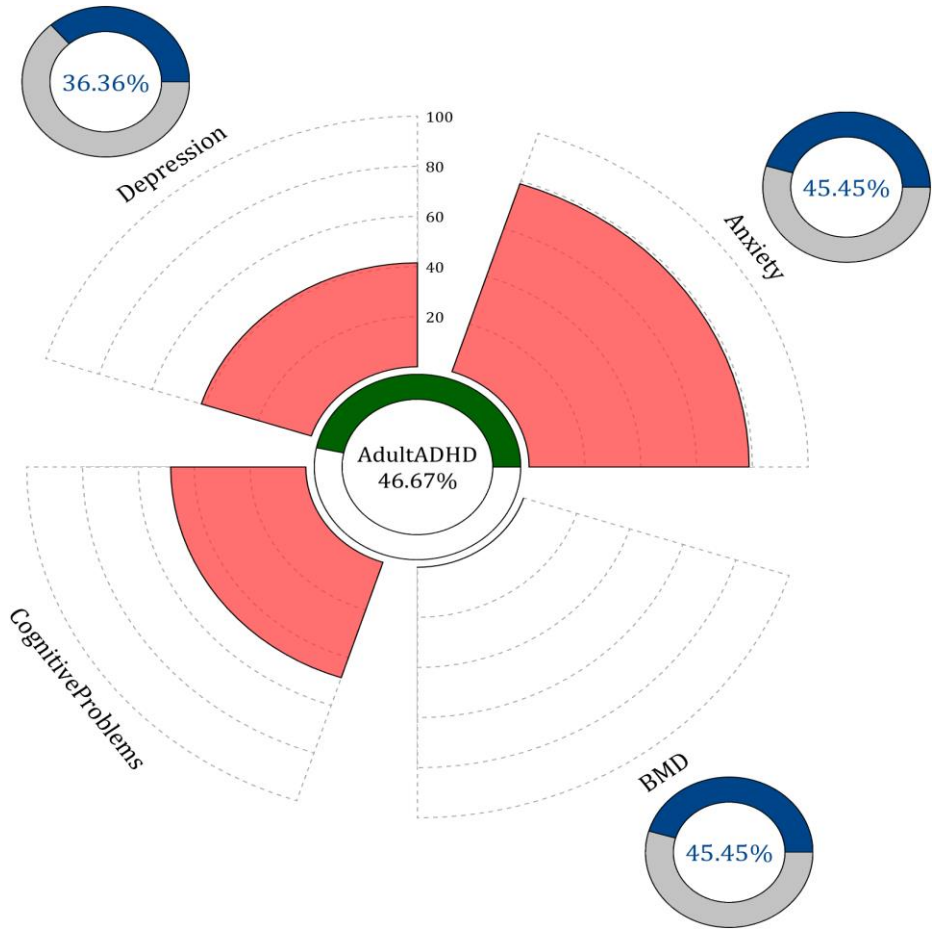
Low Artifact Percentage

High Artifact Percentage

Total Artifact Percentage

**EEG Quality:** good

# Pathological Assessment
## Main Diagnosis: Adult ADHD




## Description

According to the guidelines, the initial diagnosis of adult ADHD could have comorbidities such as **alcohol abuse, anxiety, and depression.** It also differentially diagnoses with **depression, anxiety, and BMD.**

In the above graph, the **red area** shows the percentage of each comorbidity from your patient's EEG markers. Observe that each comorbidity marker is not unique and can be shared with other comorbidities.

Side circles in the above graph represent the differential diagnosis between depression and its misdiagnosis conditions based on your patient's EEG markers and trained artificial intelligence. The differential diagnosis probability is represented by **the bold blue bars** in the circles, and the probability of depression is represented by the gray bars.

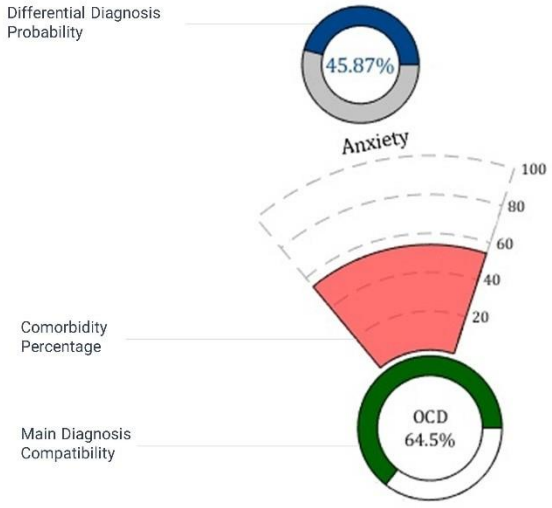
**Note:** In case your patient has drug abuse, obtain the substance abuse pathologic page of QEEGhome by registering the diagnosis under the initial diagnoses section of the website.

References:

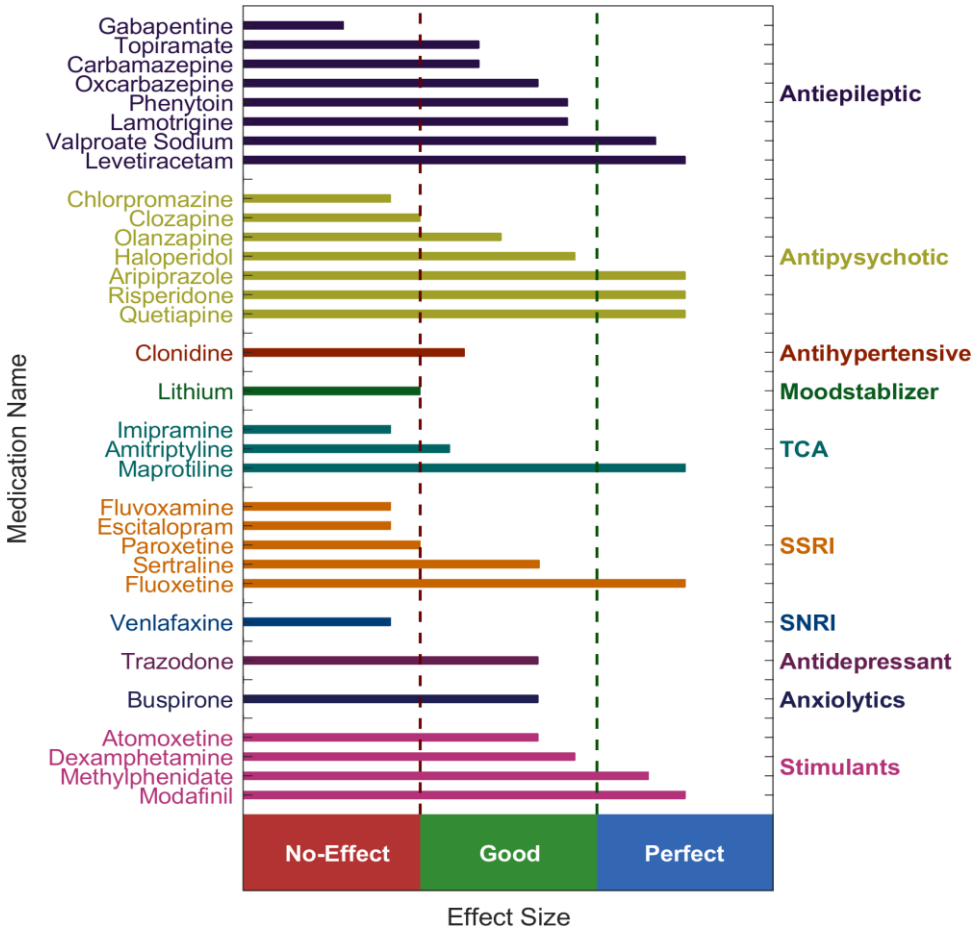
Sadock, B. J., Sadock, V. A., & Ruiz, P. (Eds.). (2025). Kaplan and Sadock's comprehensive textbook of psychiatry (11th ed., Vols. 1–2). Wolters Kluwer

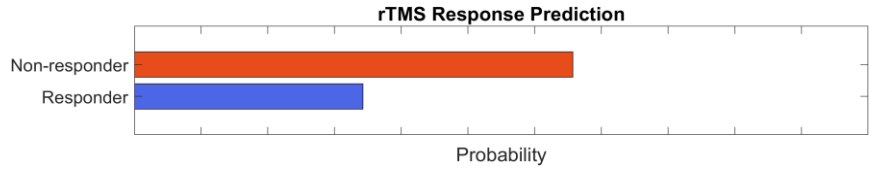
Sadock, B. J., Sadock, V. A., & Ruiz, P. (2022). Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry (12th ed.). Wolters Kluwer

## User Manual



# 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

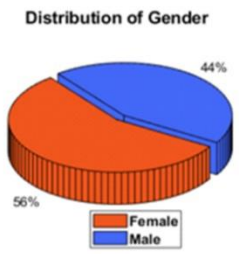
These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables present the indicators reviewed in the QEEG studies and are not a substitute for physician selection.

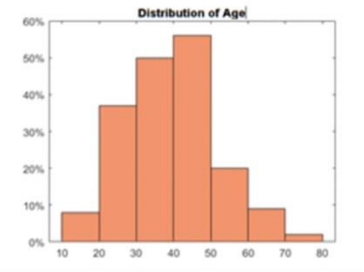
# rTMS Response Prediction

## Network Performance

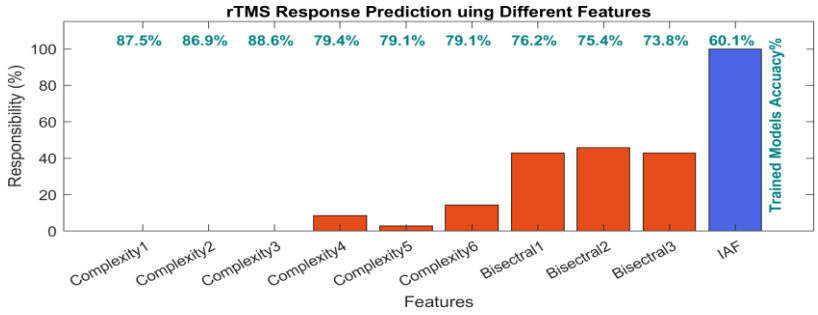
Accuracy: 92.10%
Sensitivity: 89.13%
Specificity: 97.47%

## Participants Information

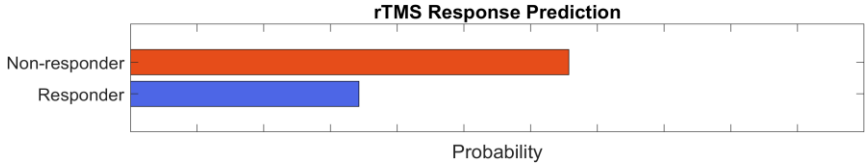


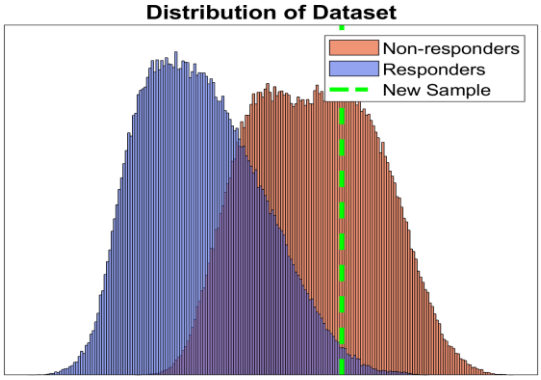

## Features Information




## Responsibility



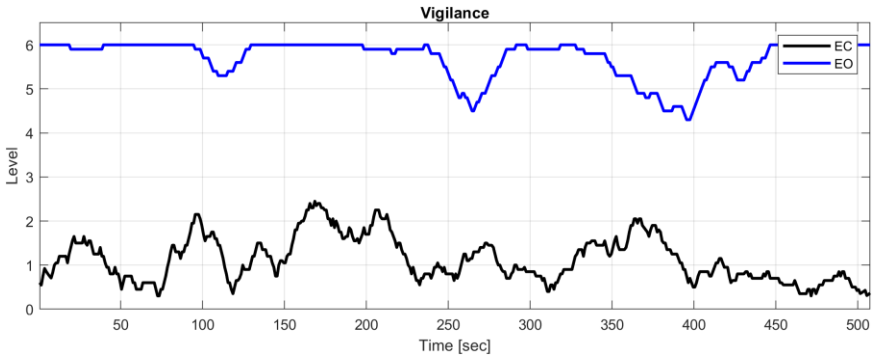

## Data Distribution




## 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.

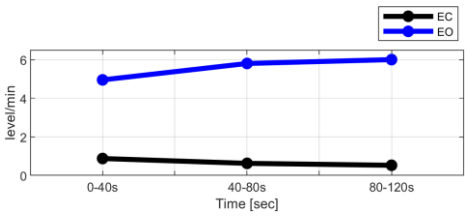
## Vigilance




### Vigilance Slope

**EC:0.11** 2min

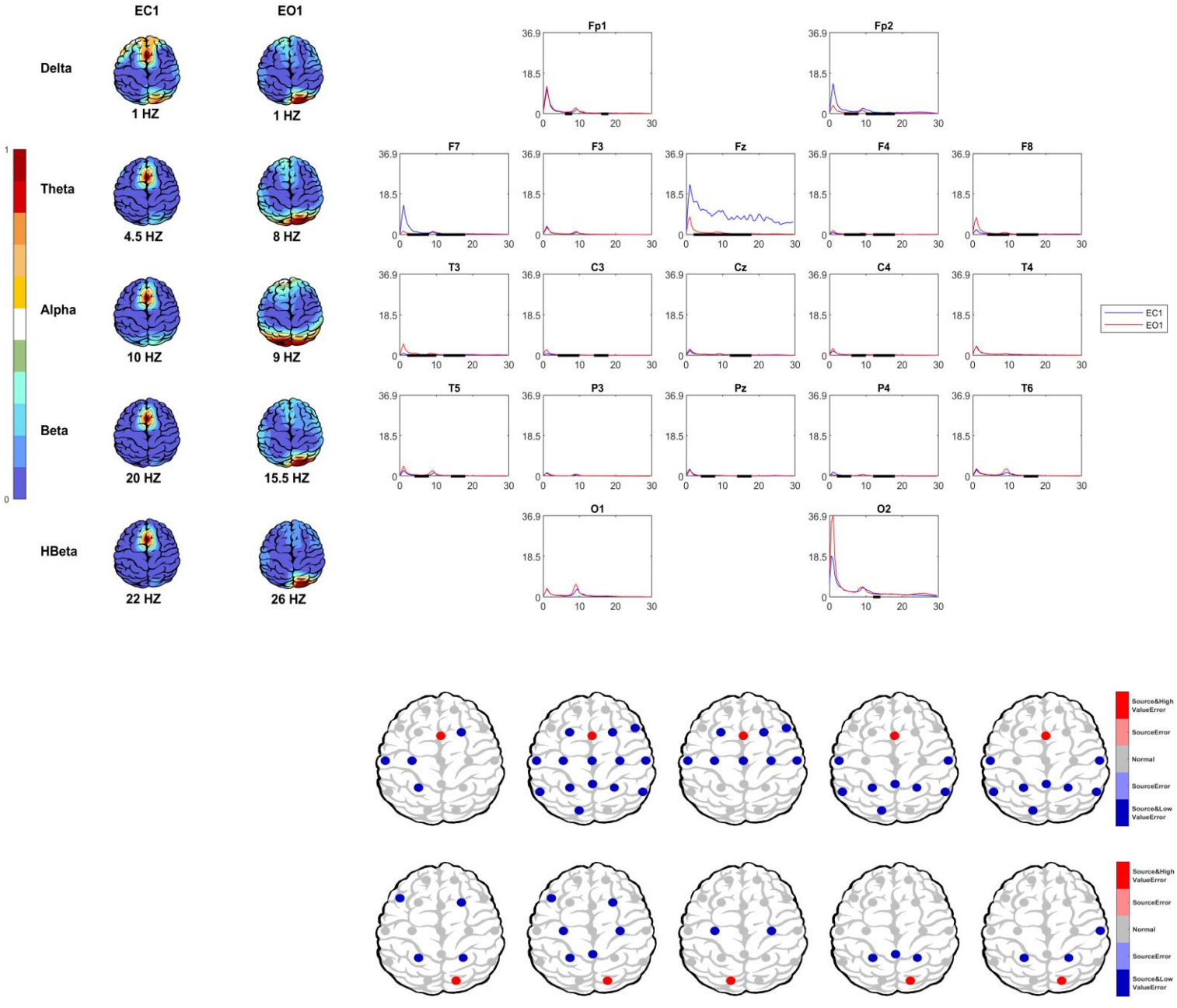
**EO:-0.28** 2min




## EEG Neuromarker Values

| Neuromarker | Region | Value | Assessment |
|---|---|---|---|
| APF - EO | Frontal | 09.67 | Normal |
| AFP - EC | Frontal | 10.17 | Normal |
| APF - EO | Occipital | 09.50 | Low |
| AFP - EC | Occipital | 10.12 | Normal |
| Alpha Asymmetry - EO | Frontal | 00.26 | Anxiety |
| Alpha Asymmetry - EC | Frontal | 00.50 | Anxiety |
| Alpha Asymmetry - EO | Occipital | -0.09 | Anhedonia |
| Alpha Asymmetry - EC | Occipital | -0.29 | Anhedonia |
| Beta Asymmetry - EO | Frontal | -0.13 | Anxiety |
| Beta Asymmetry - EC | Frontal | 00.21 | Anhedonia |
| Alpha Blocking | O2 | - | Observed |
| Arousal Level - EO | - | - | Normal |
| Arousal Level - EC | - | - | Normal |
| Vigilance Level - EO | - | 06.00 | Normal |
| Vigilance Level - EC | - | 00.00 | Low |
| Vigilance Mean - EO | - | 05.70 | Normal |
| Vigilance Mean - EC | - | 01.12 | Low |
| Vigilance Regulation - EO | - | -0.28 | Normal |
| Vigilance Regulation - EC | - | 00.11 | Normal |
| Vigilance 0 Stage (%) - EO | - | 85.24 | High |
| Vigilance 0 Stage (%) - EC | - | 00.00 | Normal |
| Vigilance A1 Stage (%) – EO | - | 00.00 | - |
| Vigilance A1 Stage (%) – EC | - | 00.20 | - |

# EEG Spectra

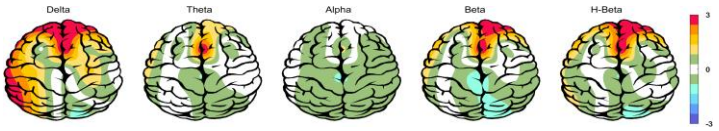

EC1
EO1
Delta
1 HZ
1 HZ
Theta
4.5 HZ
8 HZ
Alpha
10 HZ
9 HZ
Beta
20 HZ
15.5 HZ
HBeta
22 HZ
26 HZ
1
0
Fp1
Fp2
F7
F3
Fz
F4
F8
T3
C3
Cz
C4
T4
T5
P3
Pz
P4
T6
O1
O2
36.9
18.5
0
10
20
30
EC1
EO1


Source&High ValueError
SourceError
Normal
SourceError
Source&Low ValueError

# Z Score Summary Information

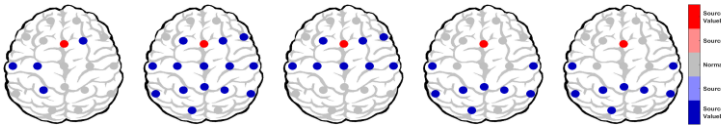
## Eye Close

Absolute Power

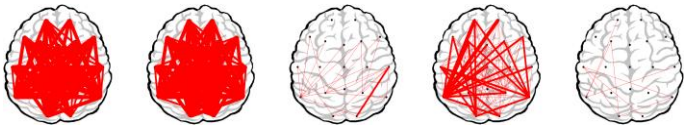



Relative Power

Generation Source

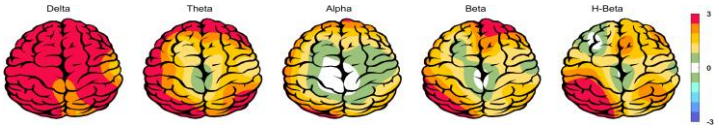


Coherence



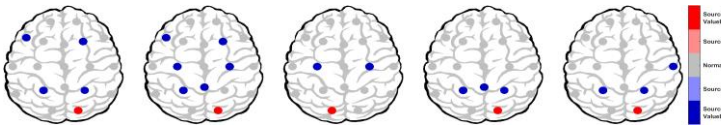
## Eye Open

Absolute Power




Relative Power

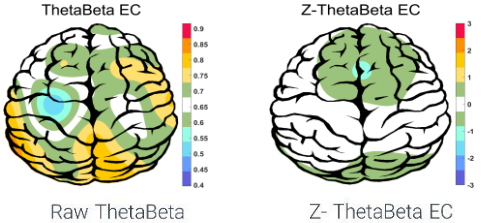
Generation Source



Coherence

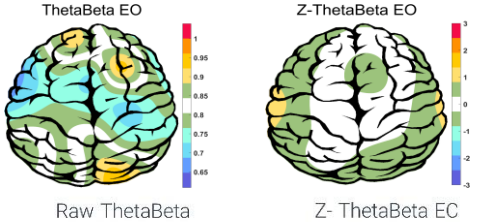
# Theta/Beta Ratio

## Eye Close



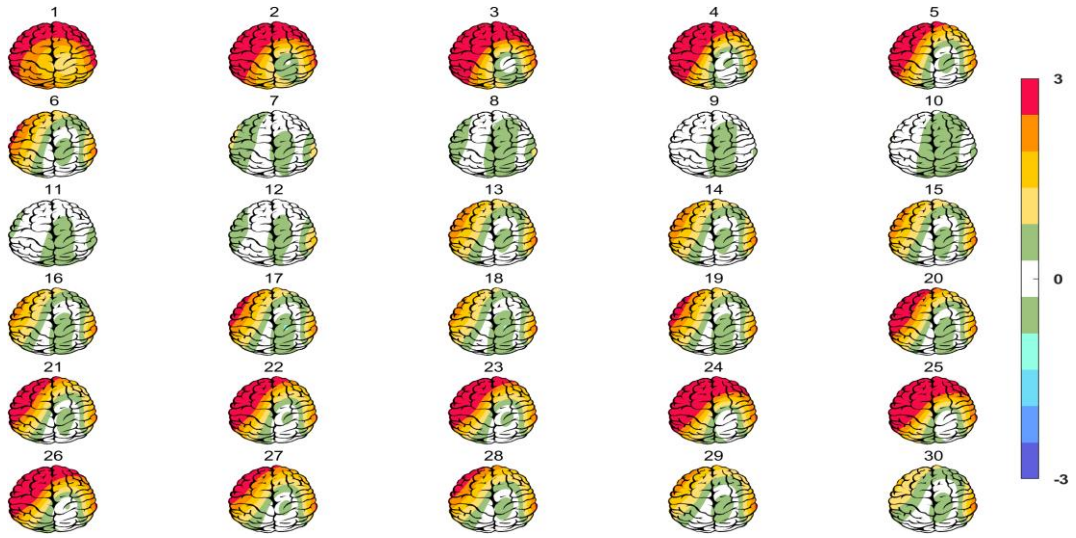

Raw ThetaBeta | Z- ThetaBeta EC

## Eye Open

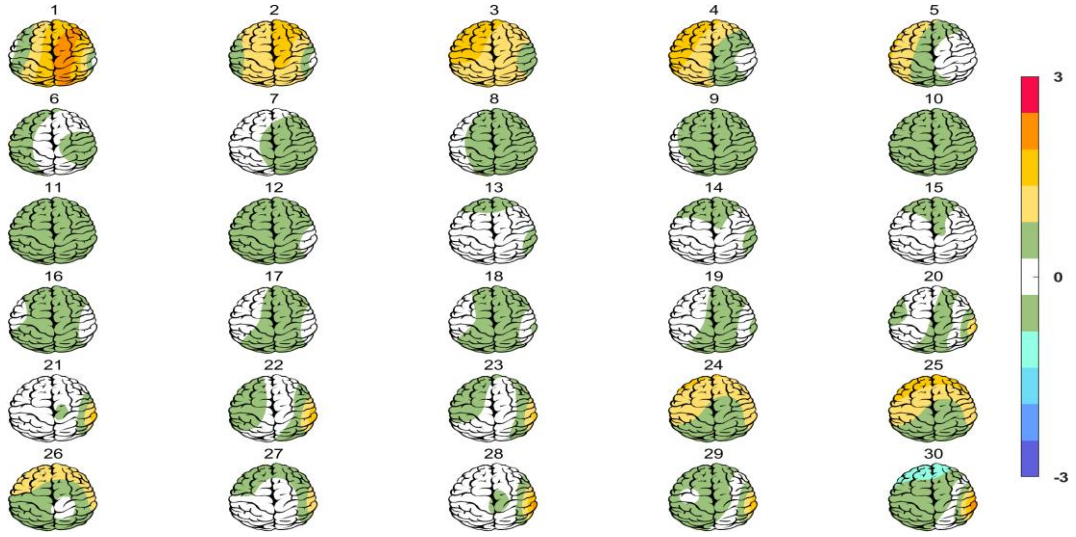



Raw ThetaBeta | Z- ThetaBeta EC

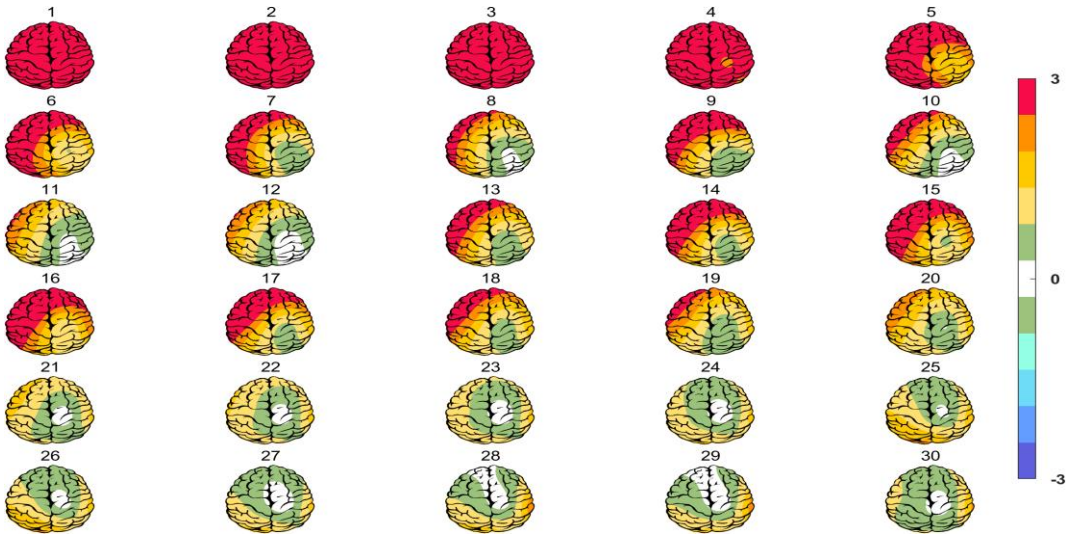
## Absolute Power-Eye Close




## Relative Power-Eye Close



## Absolute Power-Eye Open




## Relative Power-Eye Open