QEEG Clinical Report

EEGLens

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

Personal Data:

Name: Atiyeh Doki
Gender: Female
Age: 1964-05-11 - 61.6
Handedness: Right

Clinical Data:

Initial diagnosis: MDD-Opium
Medication: Alprazolam-ES-citalopram
Date of Recording: 2025-10-15
Source of Referral: Panah Clinic

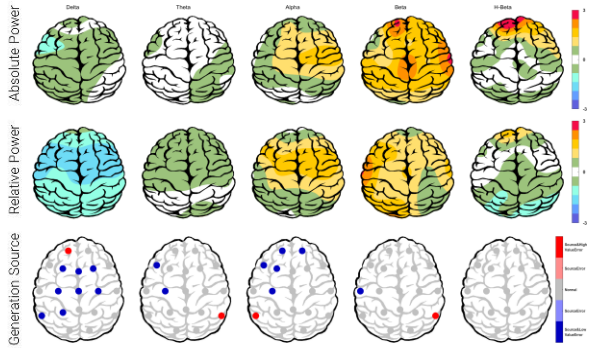
This case belongs to Panah Clinic

EEG Quality

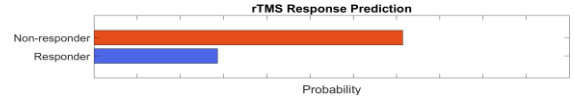
EC

Z-score Information

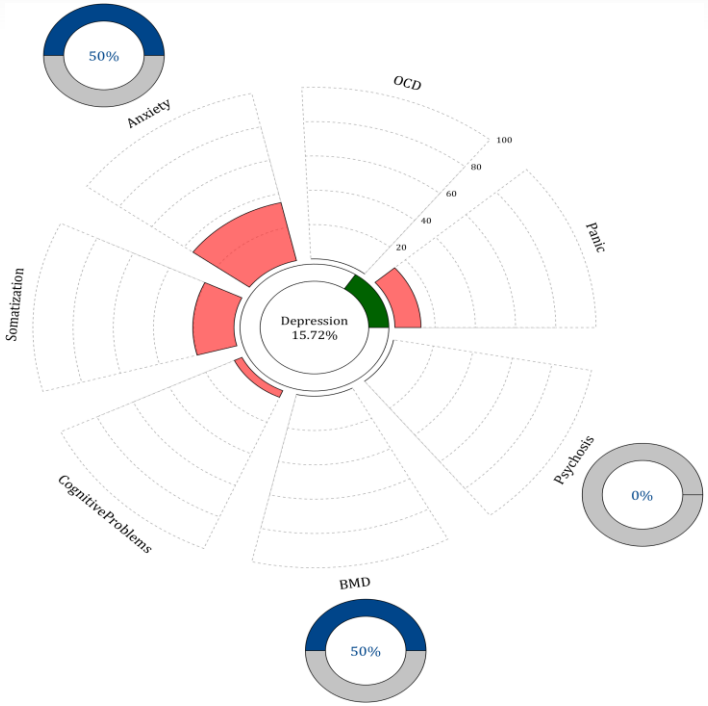
EC



TMS Reponsibility



Pathological Assessment



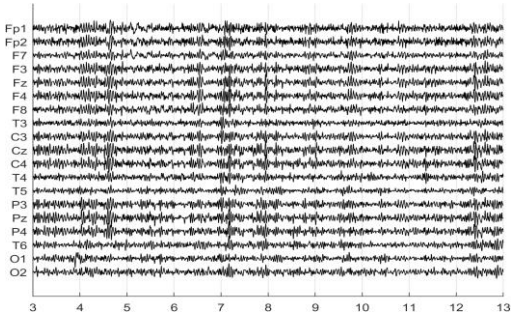
EEG Neuromarker Values

Neuromarker	Region	Value	Assessment
AFP	Frontal	11.17	High
AFP	Occipital	11.75	High
Arousal Level	-	-	Normal

Denoising Information

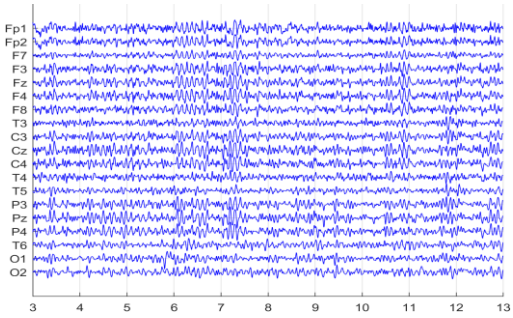
Eye Close

Raw EEG



Rejected Channel

Denoised EEG



Flat Channel

Total Recording Time Remaining:
37.50 sec

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

Low Artifact Percentage

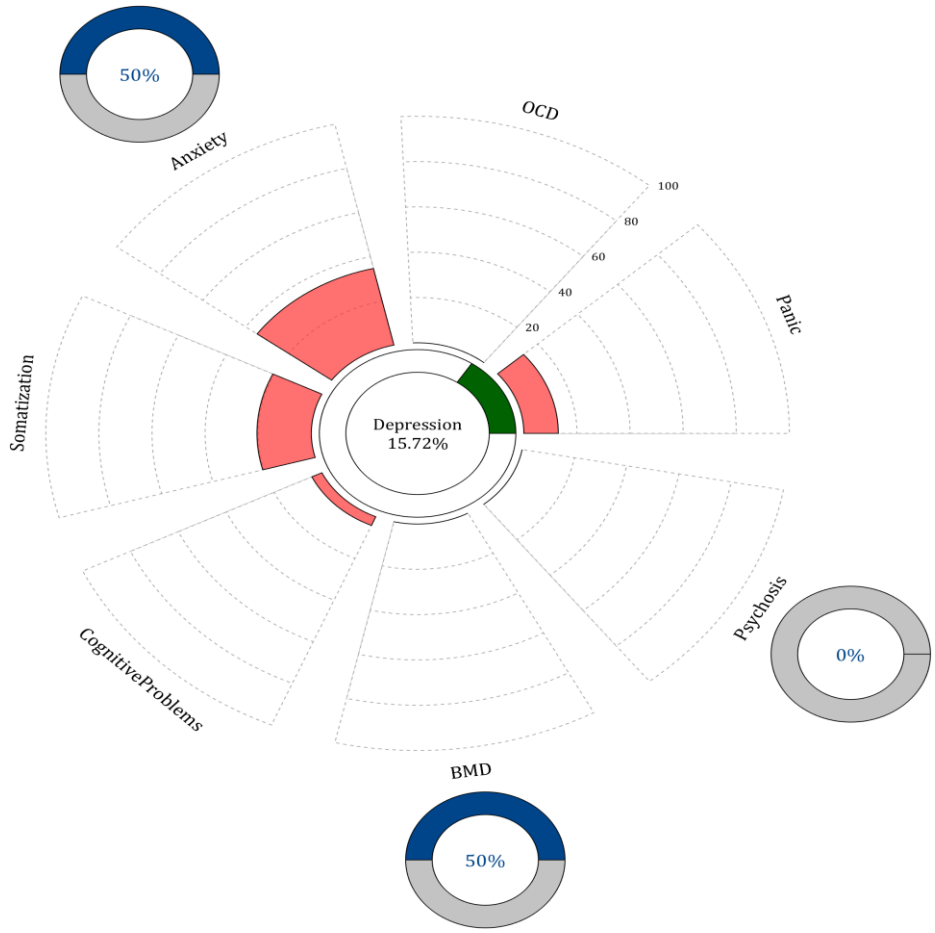
High Artifact Percentage

Total Artifact Percentage

EEG Quality: good

Pathological Assessment

Main Diagnosis: Depression

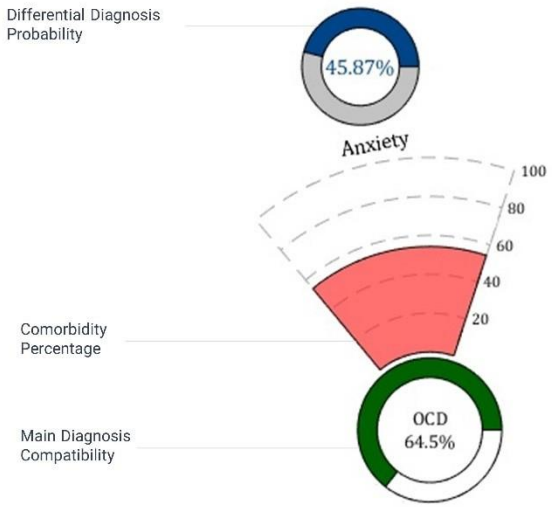


Description

According to the guidelines, the initial diagnosis of depression could have comorbidities such as **alcohol abuse, panic attacks, OCD, and anxiety.** It also differentially diagnoses with **anxiety, bipolar disorder, alcohol abuse, psychosis, and somatoform.**
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.

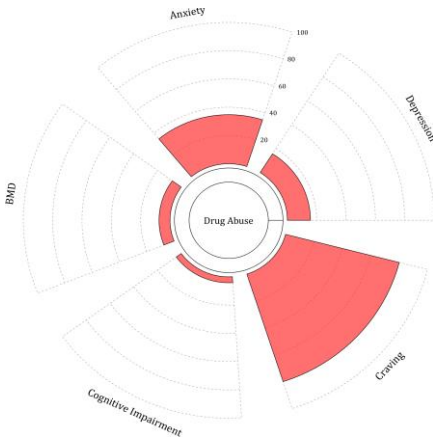
References:
Sadock, B. J., Sadock, V. A., & Ruiz, P. (Eds.). (2025). Kaplan and Sadock's comprehensive textbook of psychiatry (11th ed., Vols. 1–2). Wolters Kluwer
Sadock, B. J., Sadock, V. A., & Ruiz, P. (2022). Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry (12th ed.). Wolters Kluwer

User Manual

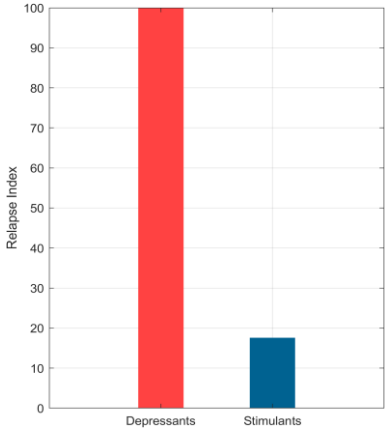


Pathological Assessment for Substance Abuse

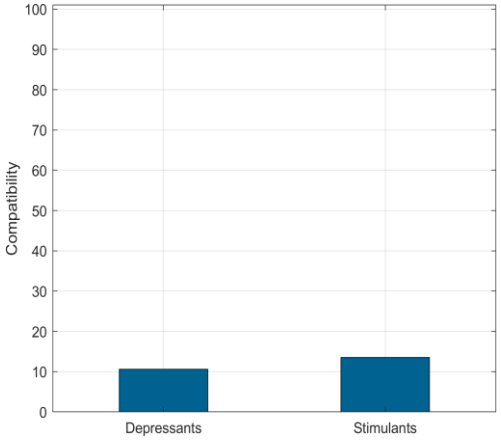
Comorbid Symptoms



Relapse Index



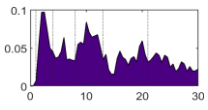
Substance Abuse Compatibility

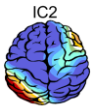


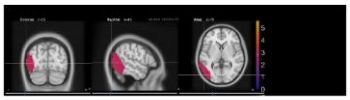
Functional Problems Source Detection

Eye Close

Freq = 2.5 Hz

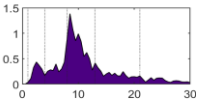


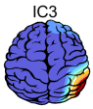


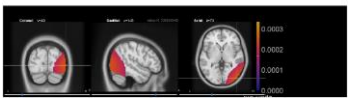


Brodmann area 19
Inferior Occipital Gyrus
Inferior Temporal Gyrus
Middle Occipital Gyrus

Freq = 8.5 Hz





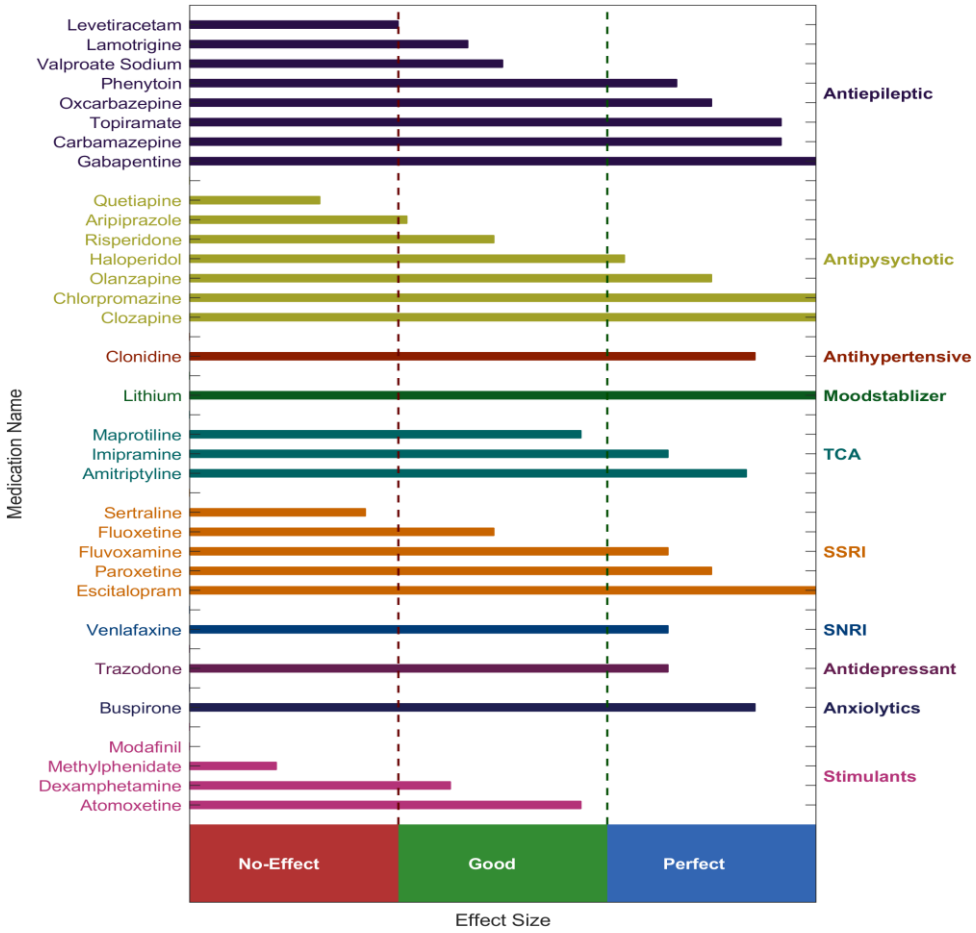


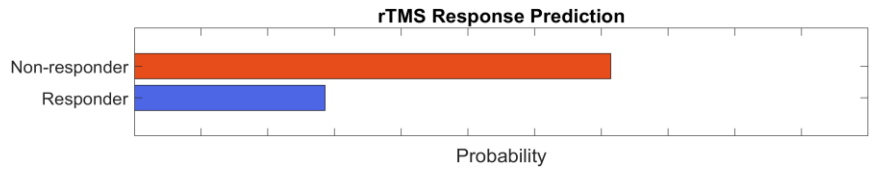
Brodmann area 18
Inferior Occipital Gyrus

Note

The **Relapse** graph displays the relapse index based on a combination of EEG neuromarkers. It is valid only if the patient has used each of the substances included in the chart; otherwise, the index is not applicable.
The **Compatibility** graph shows how closely the patient's EEG neuromarkers match typical EEG changes caused by specific substances. It helps identify the dominant substance effect in cases of multiple drug use. This index is also valid only if the patient has actually used the substances represented.

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

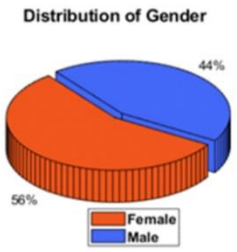
These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables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

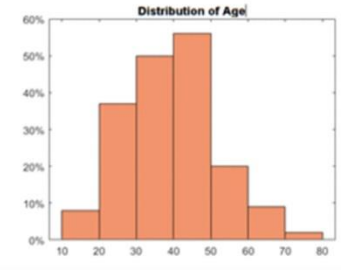
rTMS Response Prediction

Network Performance

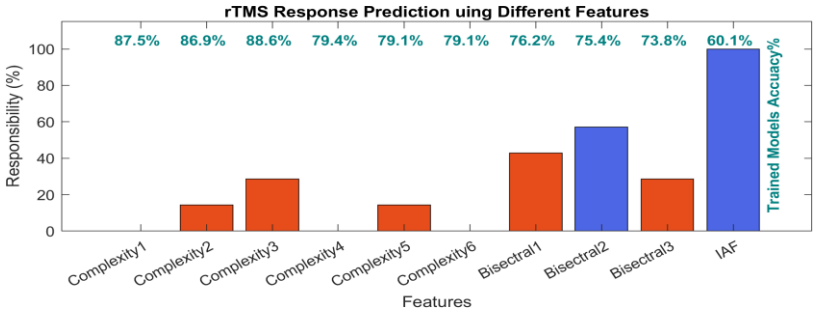
Accuracy: 92.10%
Sensitivity: 89.13%
Specificity: 97.47%

Participants Information

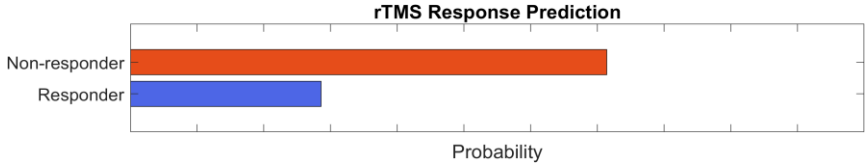




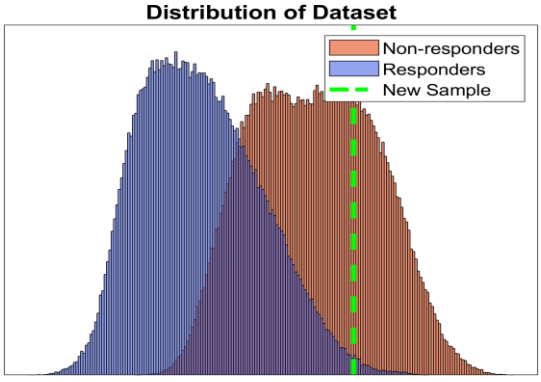
Features Information



Responsibility



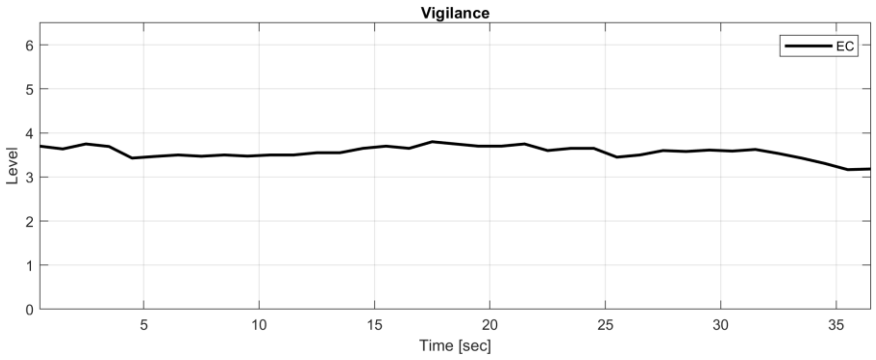
Data Distribution



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.

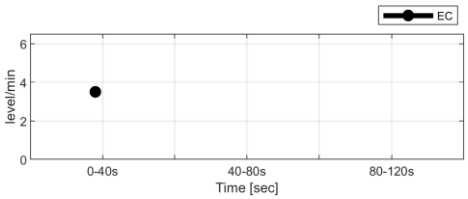
Vigilance



Vigilance Slope

-0.70

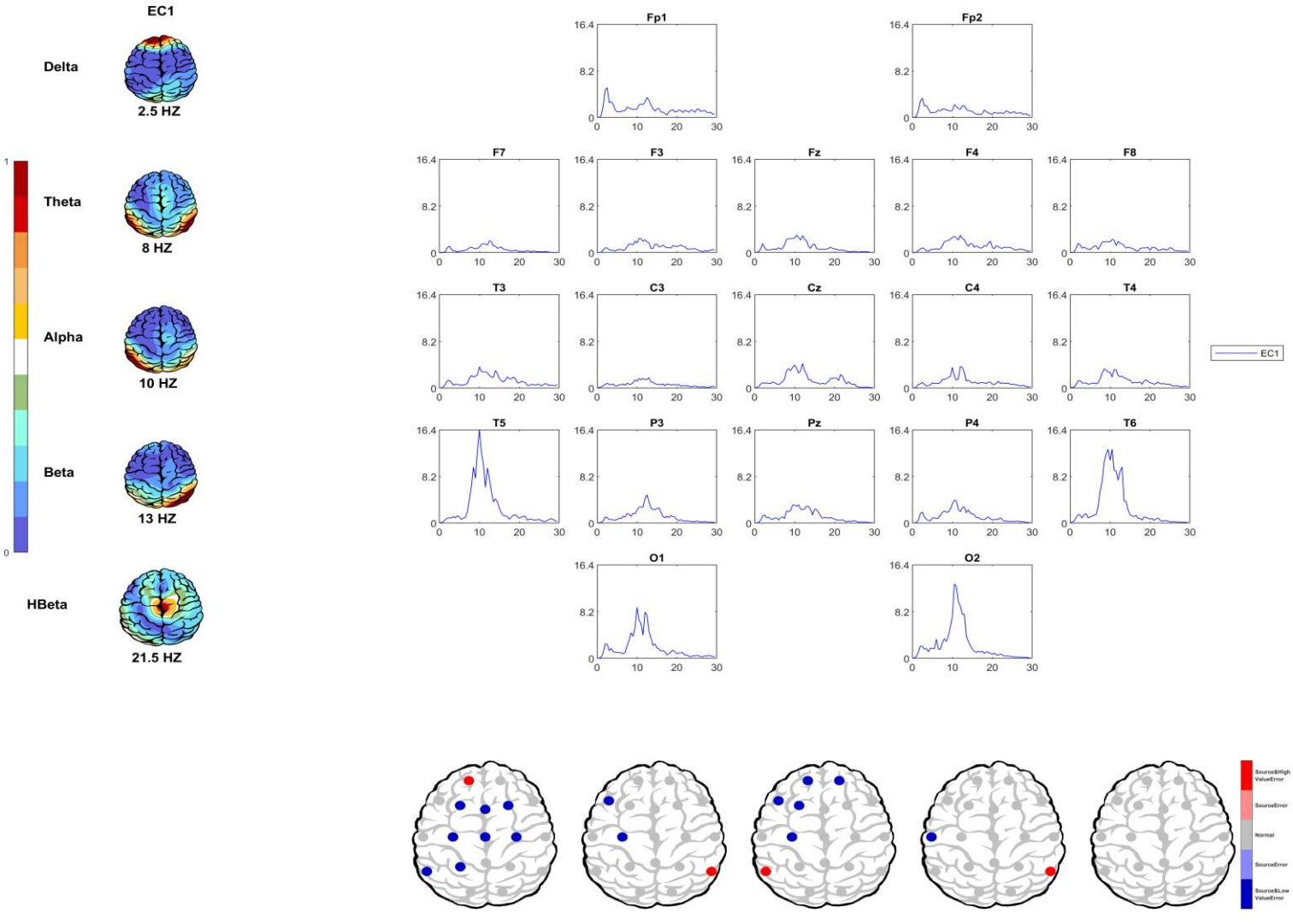
2min



EEG Neuromarker Values

Neuromarker	Region	Value	Assessment
APF	Frontal	11.17	High
APF	Occipital	11.75	High
Alpha Asymmetry	Frontal	-0.08	Anhedonia
Alpha Asymmetry	Occipital	-0.21	Anhedonia
Beta Asymmetry	Frontal	-0.00	Anxiety
Arousal Level	-	-	Normal
Vigilance Level	-	04.00	Normal
Vigilance Mean	-	03.54	Normal
Vigilance Regulation	-	-0.70	Low
Vigilance 0 Stage (%)	-	00.00	Normal
Vigilance A1 Stage (%)	-	27.03	-

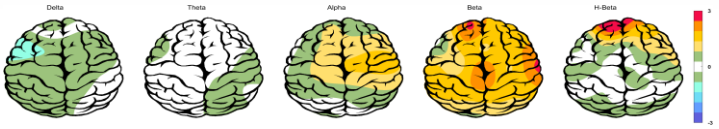
EEG Spectra


EC1
Delta
2.5 HZ
Theta
8 HZ
Alpha
10 HZ
Beta
13 HZ
HBeta
21.5 HZ
1
0
Fp1
Fp2
F7
F3
Fz
F4
F8
T3
C3
Cz
C4
T4
T5
P3
Pz
P4
T6
O1
O2
16.4
8.2
0
10
20
30
EC1

Z Score Summary Information

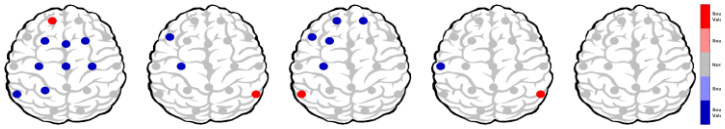
Eye Close

Absolute Power



Relative Power

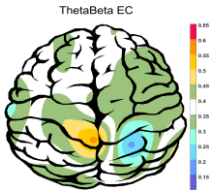
Generation Source



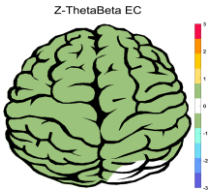
Coherence

Theta/Beta Ratio

Eye Close

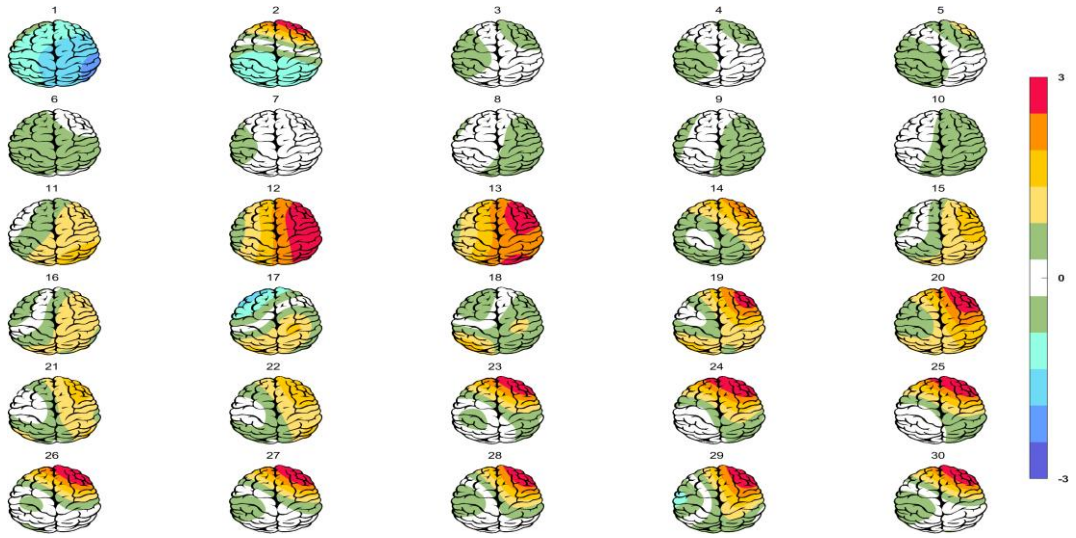


Raw ThetaBeta



Z- ThetaBeta EC

Absolute Power-Eye Close



Relative Power-Eye Close