QEEG Clinical Report

EEGLens

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

Personal Data:

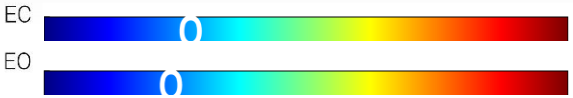
Name: Shayan Sayah
Gender: Male
Age: 2001-11-23 - 24.1
Handedness: Right

Clinical Data:

Initial diagnosis: Depression-High Aggression-Social Anxiety
Medication: -
Date of Recording: 2025-10-22
Source of Referral: Dr Moradkhani

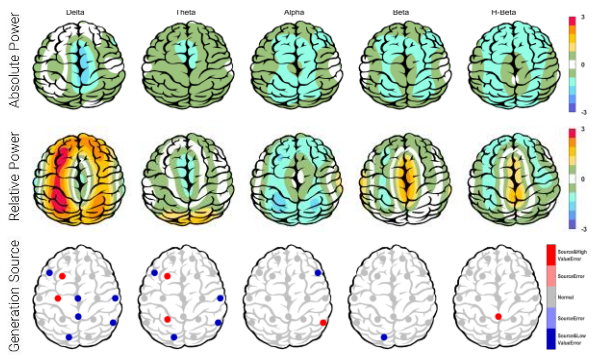
This case belongs to Dr Moradkhani

EEG Quality

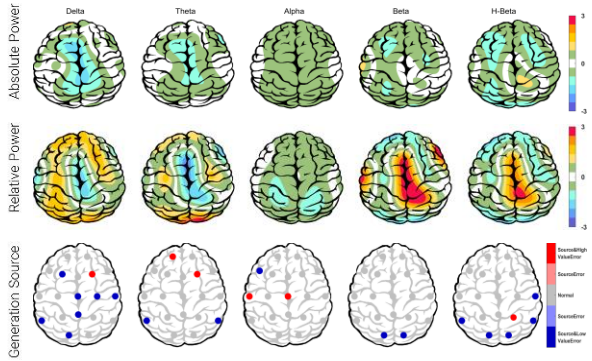


Z-score Information

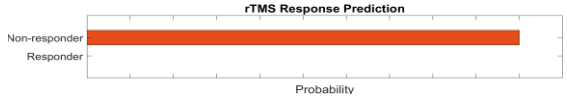
EC



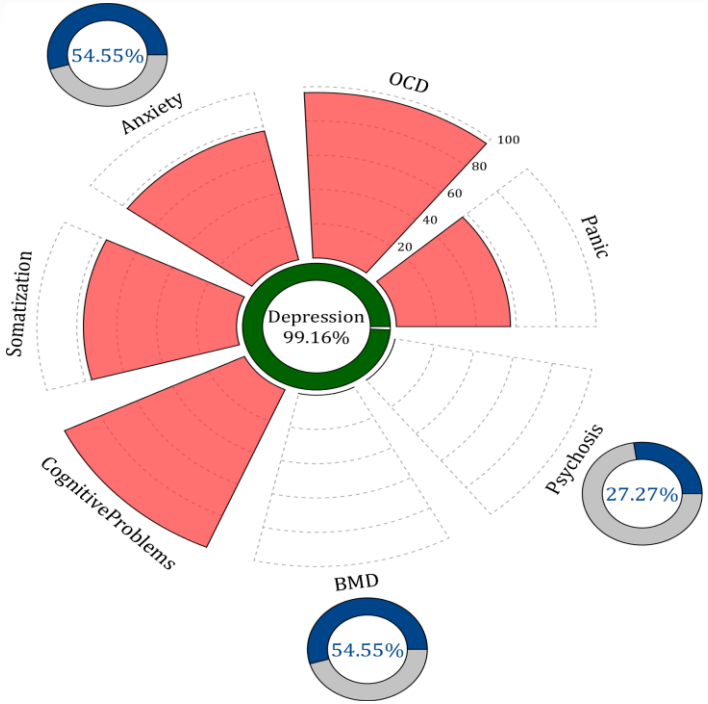
EO



TMS Reponsibility



Pathological Assessment



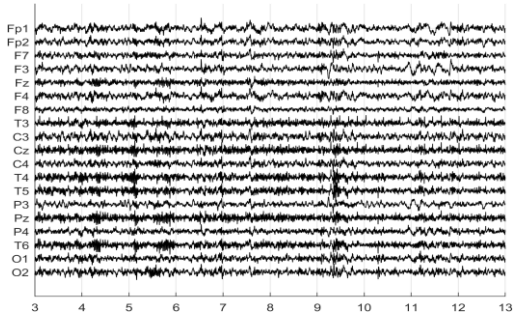
EEG Neuromarker Values

Neuromarker	Region	Value	Assessment
APF - EO	Frontal	11.08	High
AFP - EC	Frontal	10.83	High
APF - EO	Occipital	10.50	Normal
AFP - EC	Occipital	10.75	Normal
Arousal Level - EO	-	-	Normal
Arousal Level - EC	-	-	Normal

Denoising Information

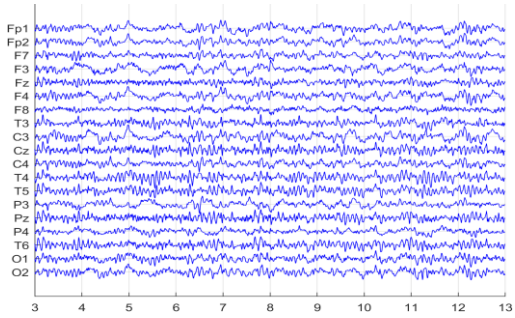
Eye Close

Raw EEG



Rejected Channel

Denoised EEG



Flat Channel

Total Recording Time Remaining:
176.82 sec

Number of Eye and Muscle Elements
Eye: 0
Muscle: 1

Low Artifact Percentage

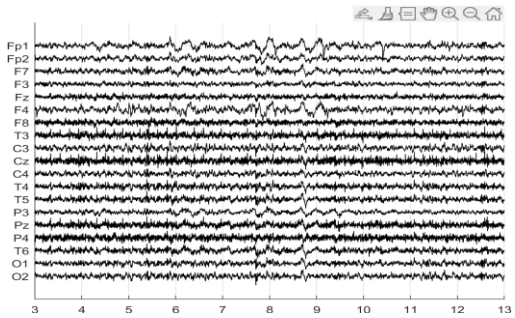
High Artifact Percentage

Total Artifact Percentage

EEG Quality: good

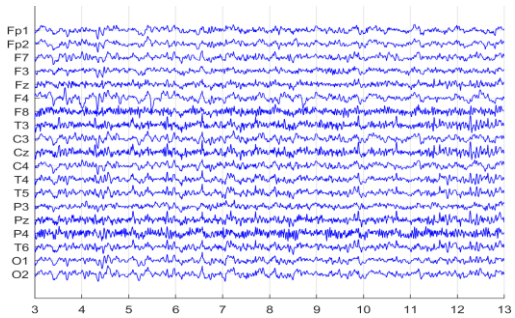
Eye Open

Raw EEG



Rejected Channel

Denoised EEG



Flat Channel

Total Recording Time Remaining:
184.06 sec

Number of Eye and Muscle Elements
Eye: 0
Muscle: 1

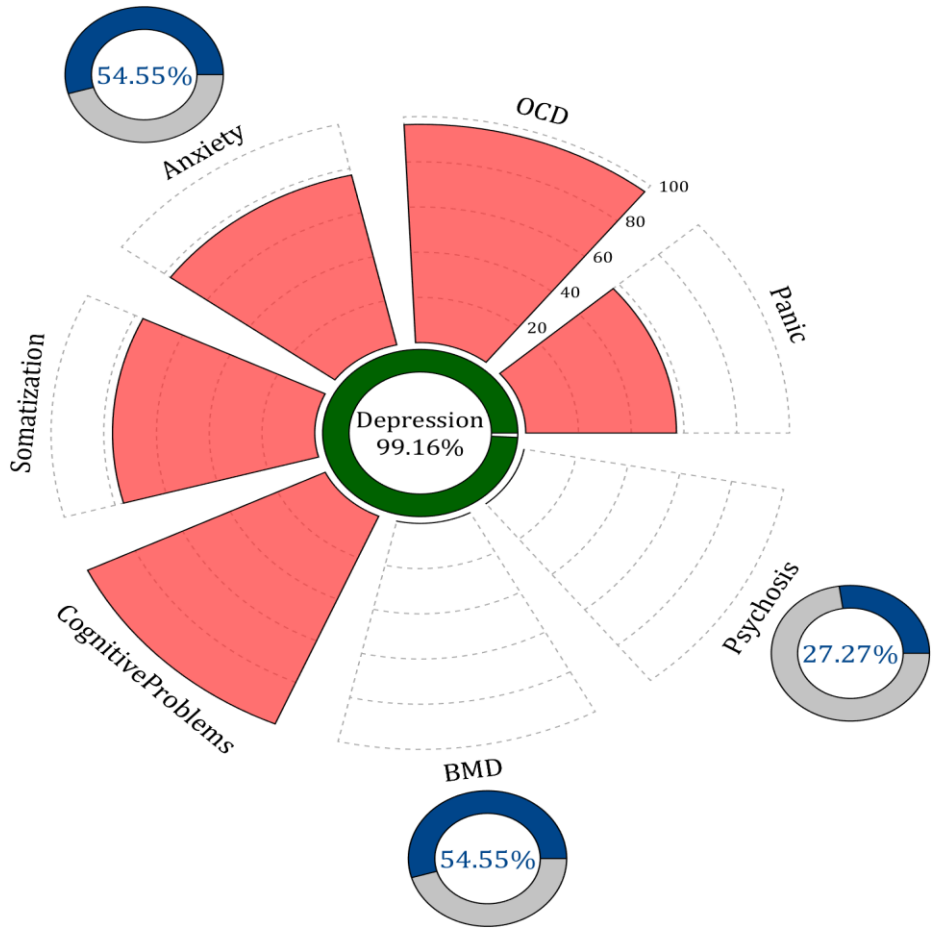
Low Artifact Percentage

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.**

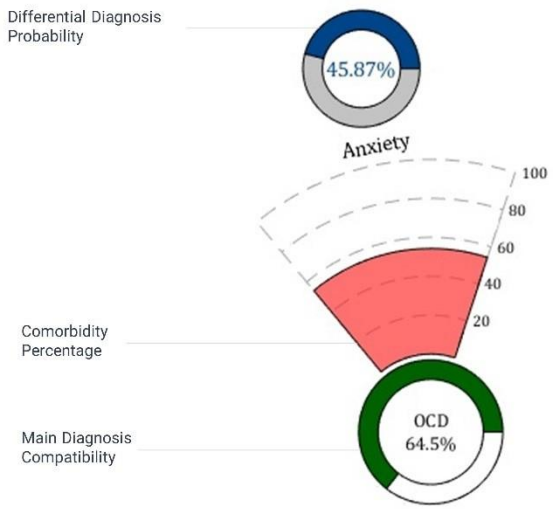
In the above graph, the **red area** shows the percentage of each comorbidity from your patient's EEG markers. Observe that each comorbidity marker is not unique and can be shared with other comorbidities.

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.

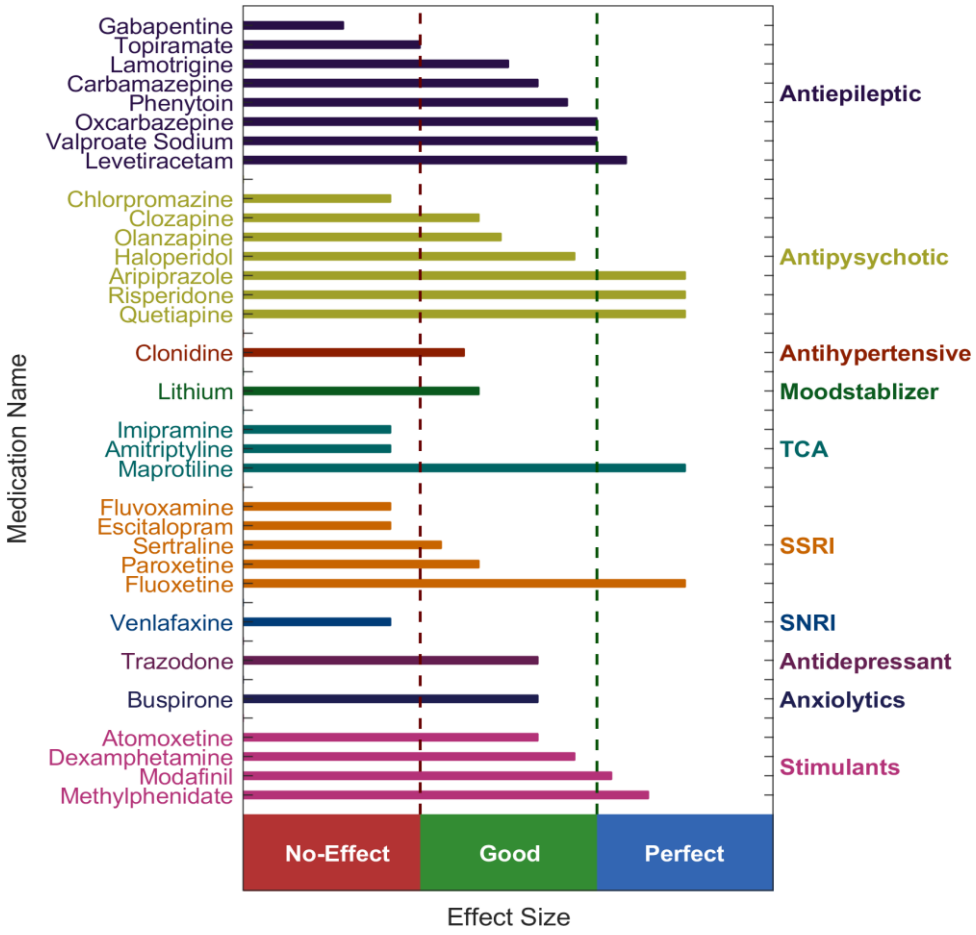
Note: In case your patient has drug abuse, obtain the substance abuse pathologic page of QEEGhome by registering the diagnosis under the initial diagnoses section of the website.

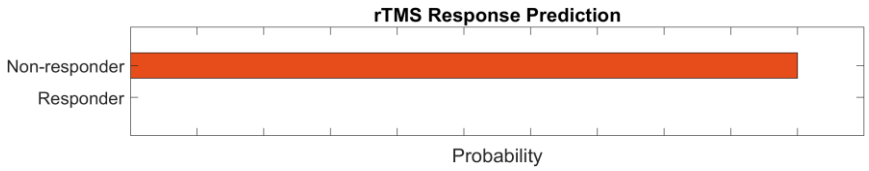
References:
Sadock, B. J., Sadock, V. A., & Ruiz, P. (Eds.). (2025). Kaplan and Sadock's comprehensive textbook of psychiatry (11th ed., Vols. 1–2). Wolters Kluwer
Sadock, B. J., Sadock, V. A., & Ruiz, P. (2022). Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry (12th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

User Manual



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

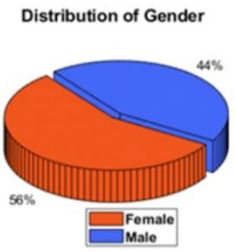
These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables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

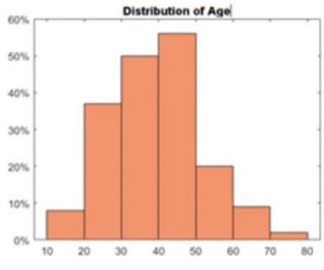
rTMS Response Prediction

Network Performance

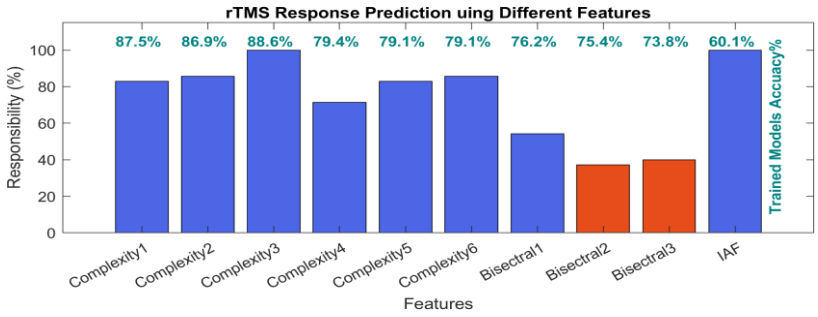
Accuracy: 92.10%
Sensitivity: 89.13%
Specificity: 97.47%

Participants Information

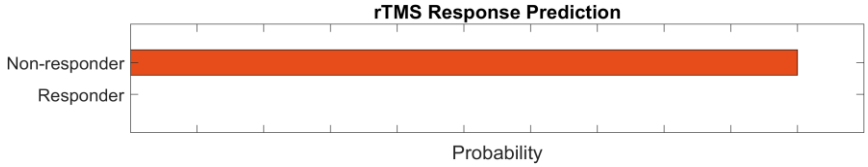




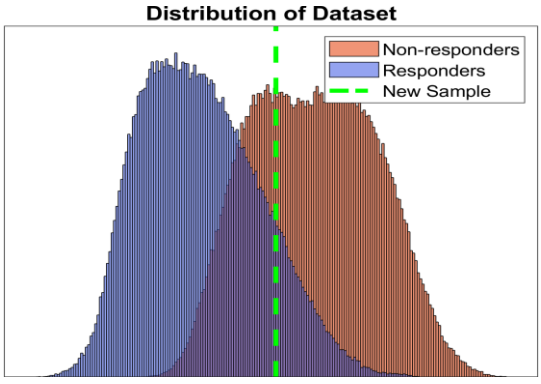
Features Information



Responsibility



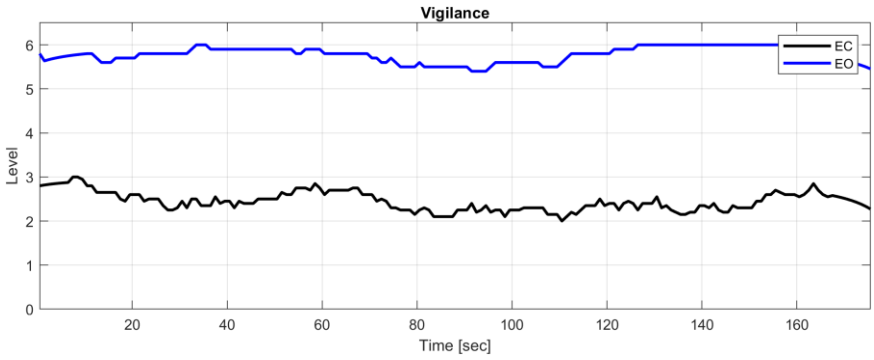
Data Distribution

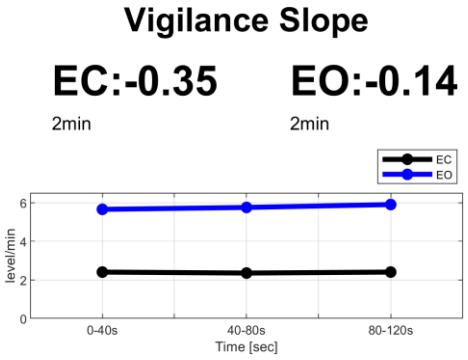


About Predicting rTMS Response

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

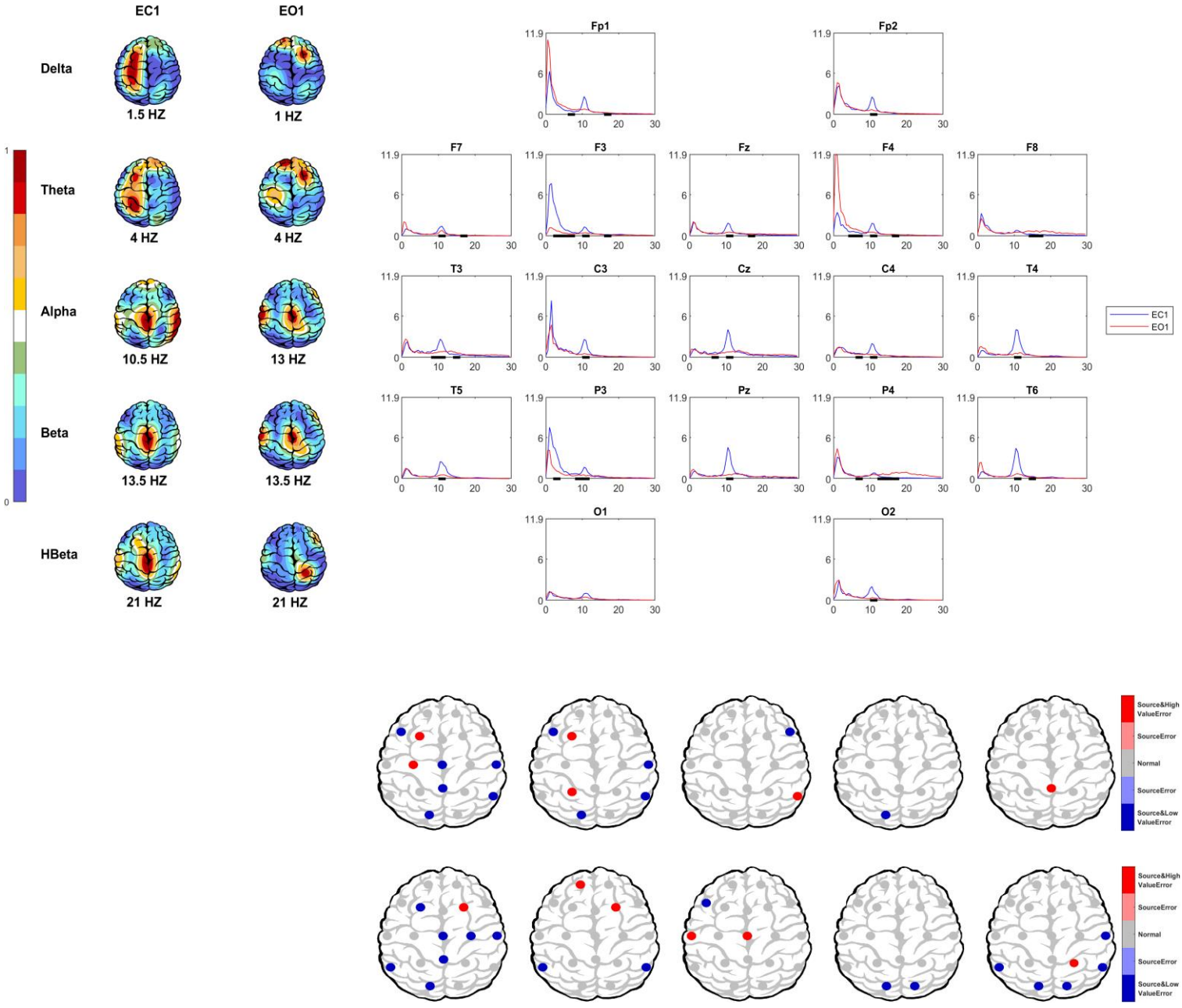




EEG Neuromarker Values

Neuromarker	Region	Value	Assessment
APF - EO	Frontal	11.08	High
APF - EC	Frontal	10.83	High
APF - EO	Occipital	10.50	Normal
APF - EC	Occipital	10.75	Normal
Alpha Asymmetry - EO	Frontal	-0.15	Anhedonia
Alpha Asymmetry - EC	Frontal	-0.09	Anhedonia
Alpha Asymmetry - EO	Occipital	00.15	Anxiety
Alpha Asymmetry - EC	Occipital	-0.20	Anhedonia
Beta Asymmetry - EO	Frontal	00.00	Anhedonia
Beta Asymmetry - EC	Frontal	00.10	Anhedonia
Alpha Blocking	-	-	Not Observed
Arousal Level - EO	-	-	Normal
Arousal Level - EC	-	-	Normal
Vigilance Level - EO	-	06.00	Normal
Vigilance Level - EC	-	03.00	Normal
Vigilance Mean - EO	-	05.77	Normal
Vigilance Mean - EC	-	02.44	Normal
Vigilance Regulation - EO	-	-0.14	Normal
Vigilance Regulation - EC	-	-0.35	Normal
Vigilance 0 Stage (%) - EO	-	88.64	High
Vigilance 0 Stage (%) - EC	-	00.00	Normal
Vigilance A1 Stage (%) – EO	-	00.00	-
Vigilance A1 Stage (%) – EC	-	01.14	-

EEG Spectra


EC1
EO1
Delta
1.5 HZ
1 HZ
Theta
4 HZ
4 HZ
Alpha
10.5 HZ
13 HZ
Beta
13.5 HZ
13.5 HZ
HBeta
21 HZ
21 HZ
1
0
Fp1
Fp2
F7
F3
Fz
F4
F8
T3
C3
Cz
C4
T4
T5
P3
Pz
P4
T6
O1
O2
11.9
6
0
0 10 20 30
EC1
EO1
Source&High ValueError
SourceError
Normal
SourceError
Source&Low ValueError

Z Score Summary Information

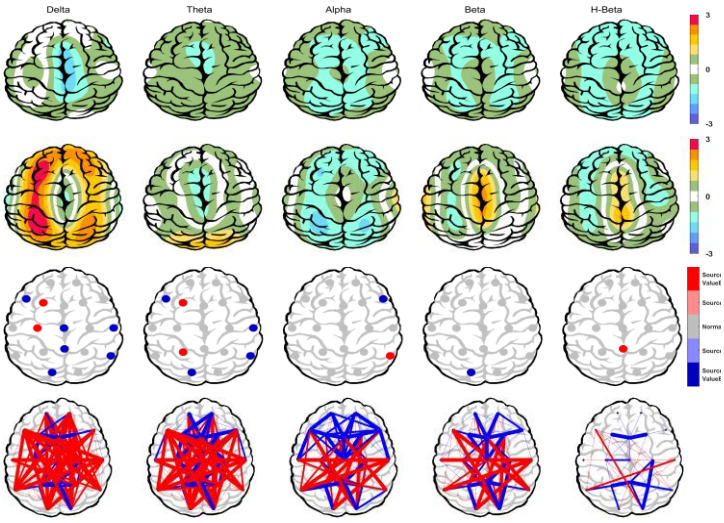
Eye Close

Absolute Power

Relative Power

Generation Source

Coherence



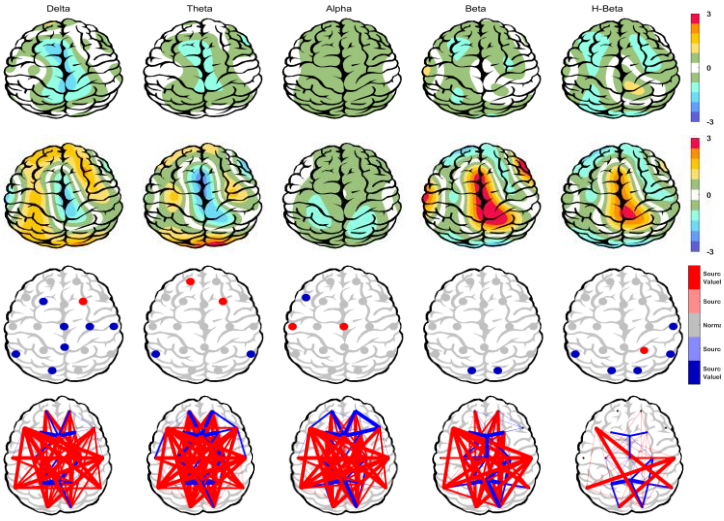
Eye Open

Absolute Power

Relative Power

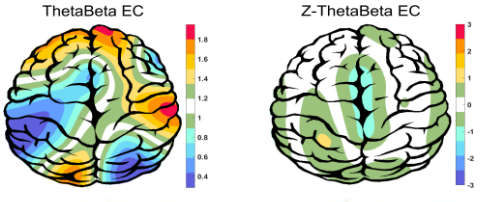
Generation Source

Coherence



Theta/Beta Ratio

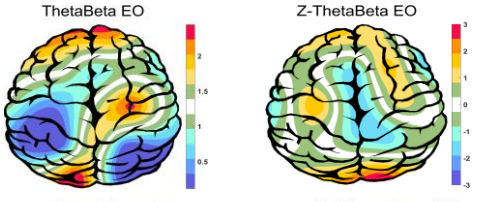
Eye Close



Raw ThetaBeta

Z- ThetaBeta EC

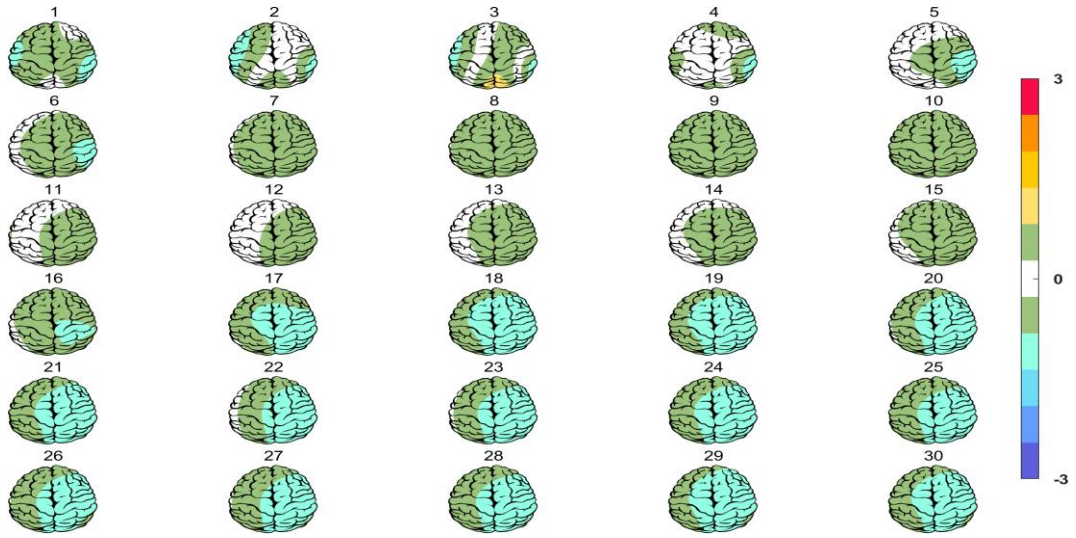
Eye Open



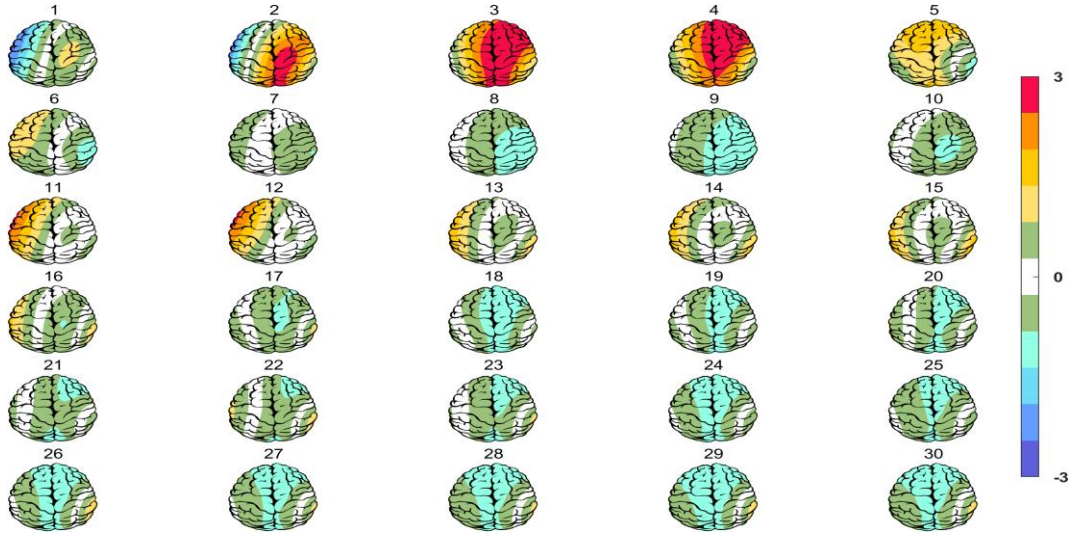
Raw ThetaBeta

Z- ThetaBeta EC

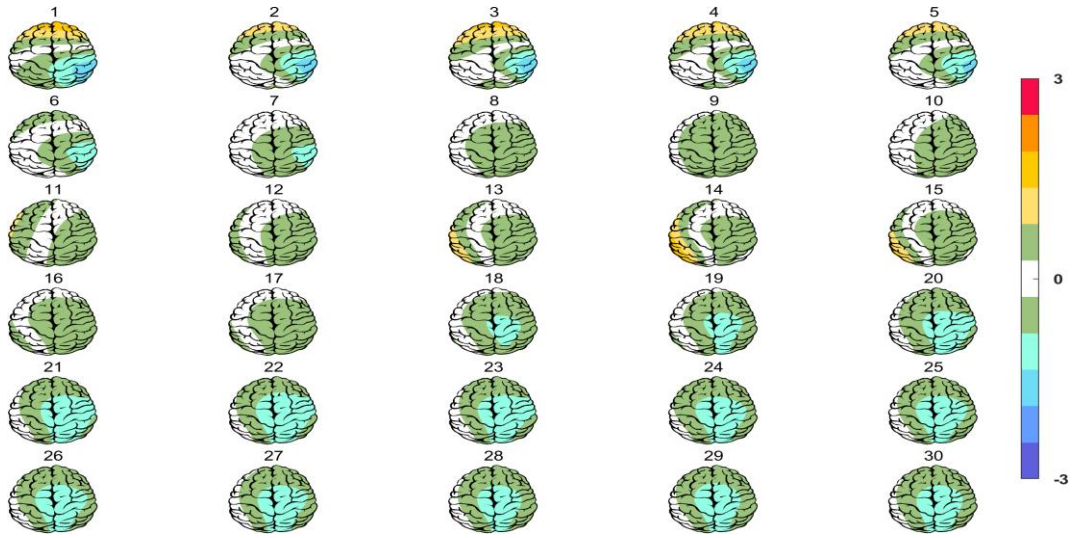
Absolute Power-Eye Close



Relative Power-Eye Close



Absolute Power-Eye Open



Relative Power-Eye Open