



QEEG Clinical Report

BrainLens V0.4



Report Description



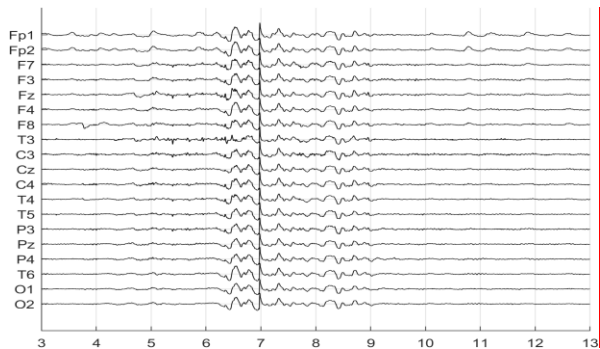
Personal & Clinical Data

Name	Mohamad Hasan Zare	Date of Recording	28-Oct-2024
Date of Birth - Age	23-May-1935 - 89.43	Gender	Male
Handedness(R/L)	Right	Source of Referral	Dr Mohammadhasani
Initial Diagnosis	Dementia		
Current Medication	Citalopram		

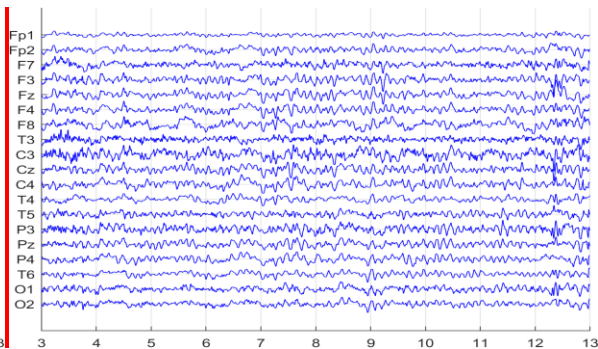
Dr Mohammadhasani

Denoising Information (EC)

Raw EEG



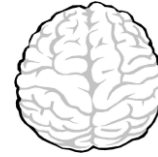
Denoised EEG



Flat Channels



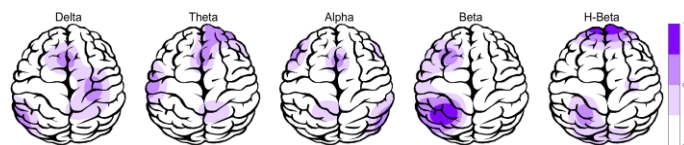
Rejected Channels



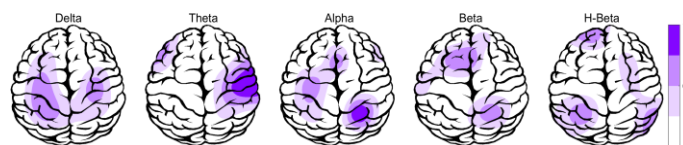
Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	2	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	468.90 sec

Pathological assessment for mood disorders and adult ADHD

Compare to Mood Disorders Database



Compare to Adult ADHD Database



EEG Compatibility with Depression Diagnosis

Depression Table		EC	
Feature Name	Threshold	Region	
Increased Global rAlpha	0.00	NAN	
Increased global rTheta	1.00	global	
Decreased rDelta	-1.00	LT	
Increased rBeta	0.50	LT	
Left FAA	0.00	NAN	
Right OAA	0.00	NAN	
Decreased Coherence (D, T)	-0.50	1	
Increased Coherence (A, B)	0.00	NAN	

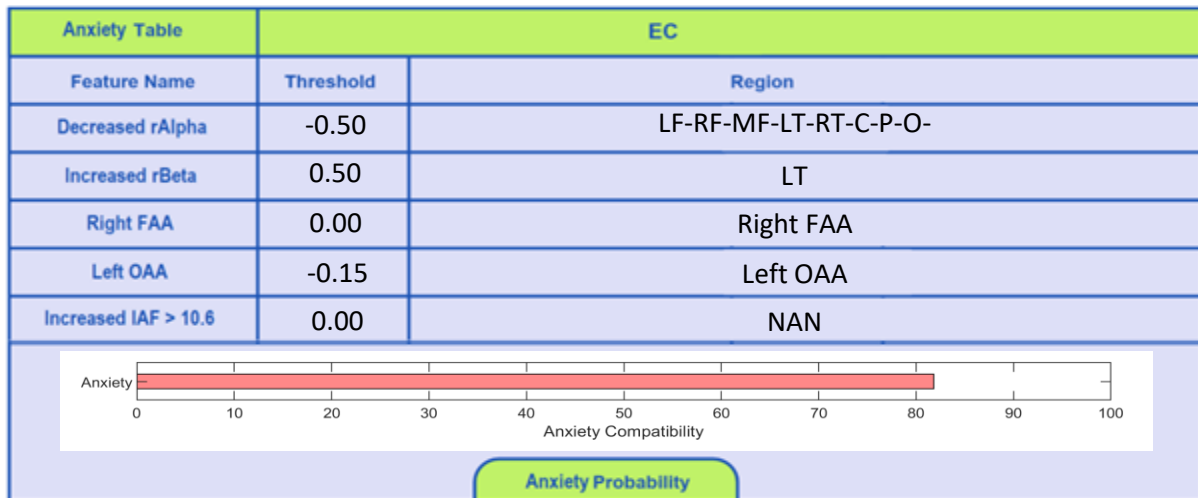
depression

0 10 20 30 40 50 60 70 80 90 100

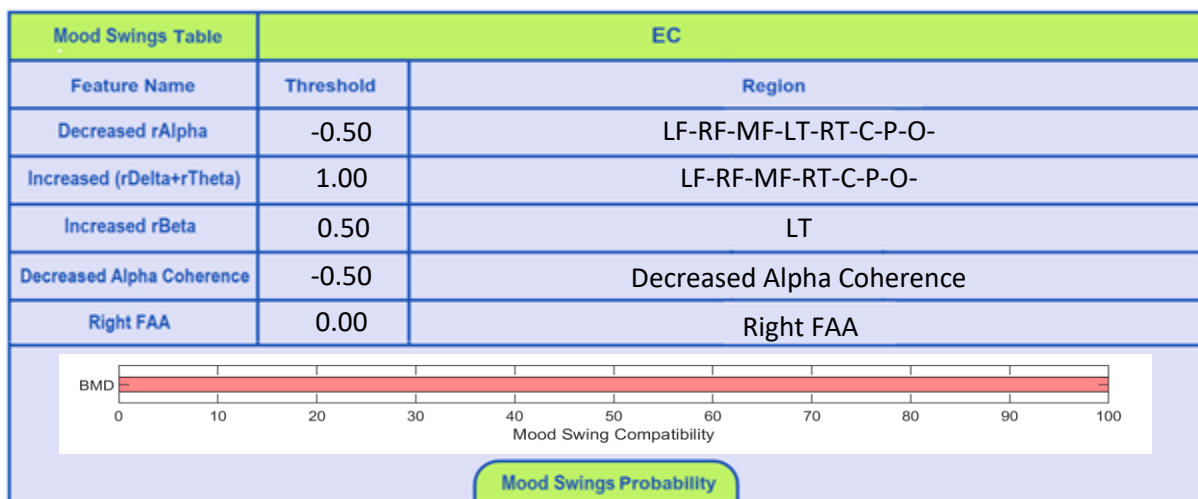
Depression Compatibility

Depression Probability

EEG Compatibility with Anxiety Diagnosis

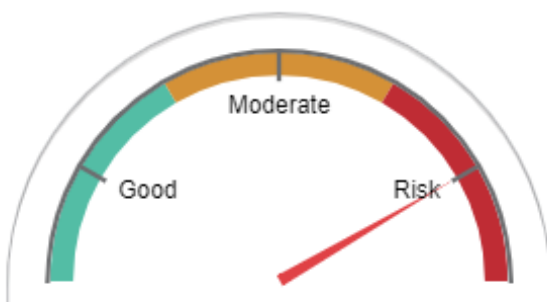


EEG Compatibility with Mood Swings Diagnosis *

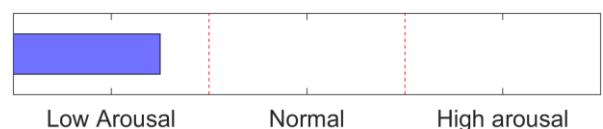


* This index can only be investigated if there are symptoms of mood swings (R/O BMD or R/O mood swings).

Cognitive Functions

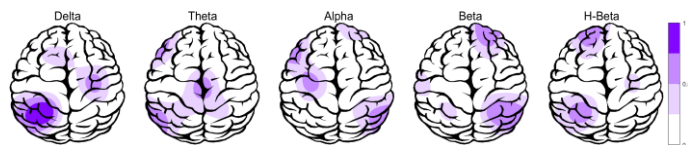


Arousal Level Detection



Pathological assessment for Dementia

Compare to Dementia Database



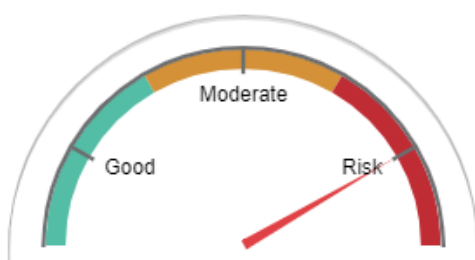
Dementia Probability

Dementia Table	EC	
Feature Name	Threshold	Region
Increased rDelta	-0.50	LF-RF-MF-LT-RT-C-P-O-
Increased rTheta	2.00	LF-RF-MF-LT-RT-C-P-O-
Decreased rAlpha	-0.50	LF-RF-MF-RT-C-P-O-
Decreased rBeta	2.00	LF-RF-MF-LT-RT-C-P-O-
Increased T/A Ratio	1.00	LF-RF-RT-P-O-
Increased D/A Ratio	-0.50	Decreased global Coherence
Decreased (D+T+A+B) Coherence	1.00	LF-RF-O-

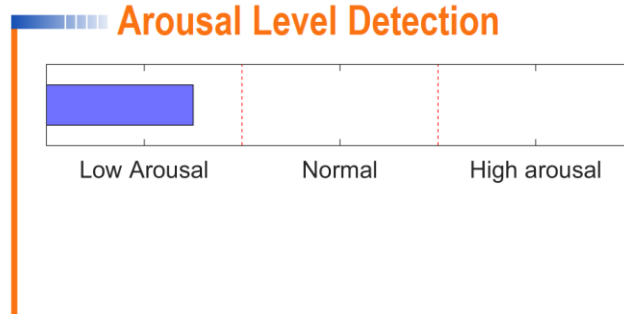
Dementia Compatibility

Dementia Probability

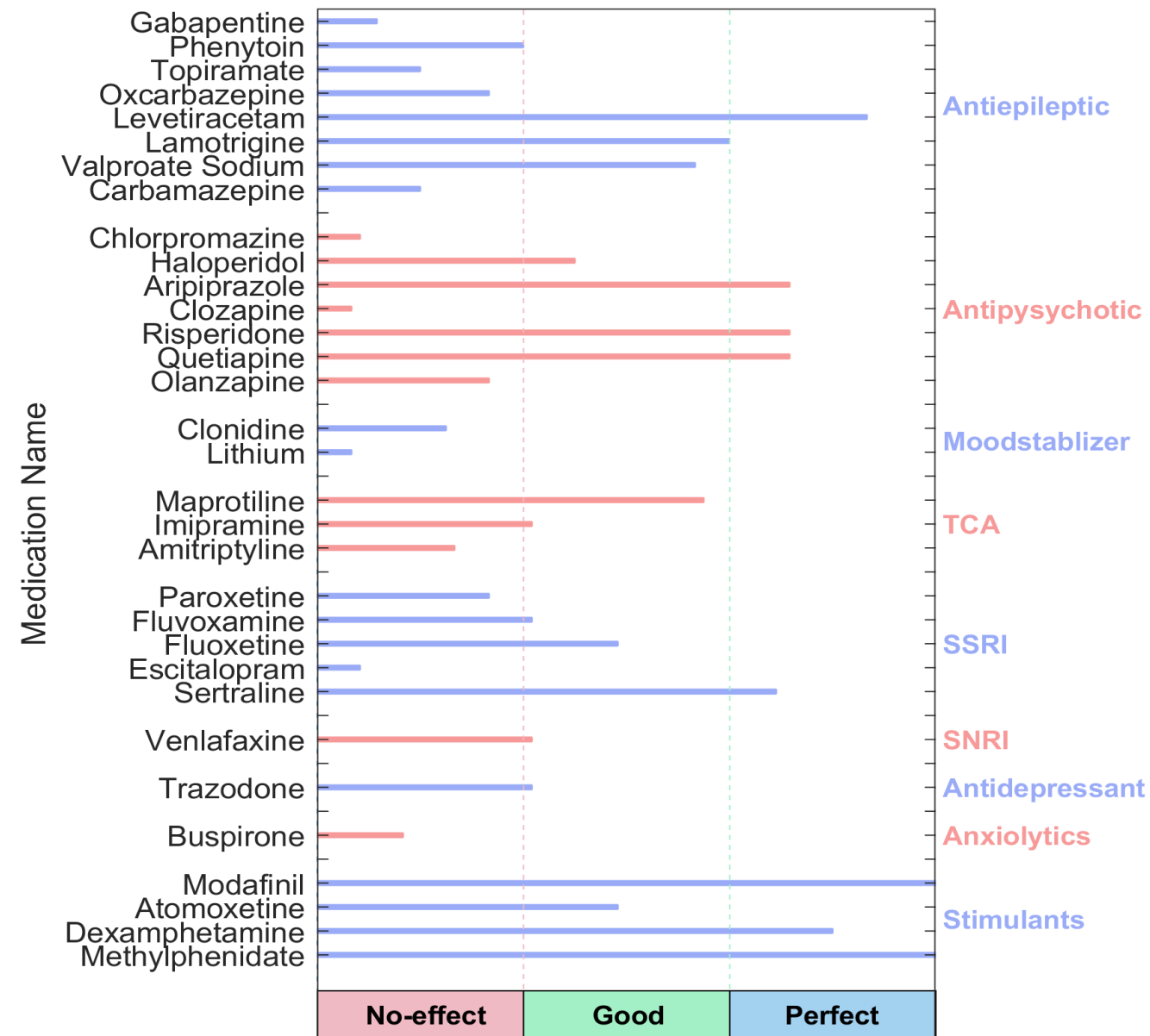
Cognitive Impairment Severity



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 Pharmacoe 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

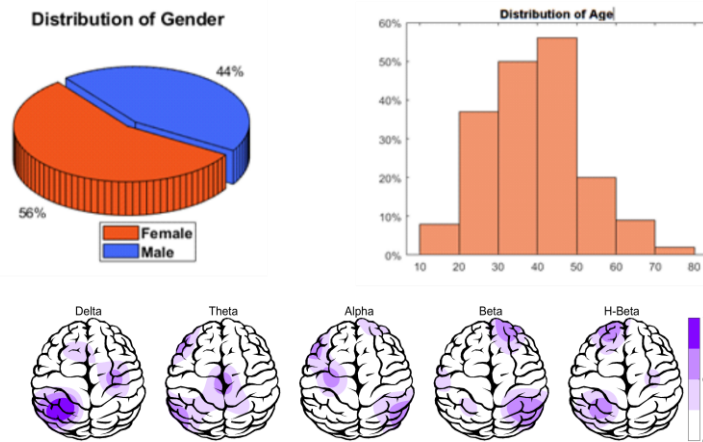
These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables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

rTMS Response Prediction

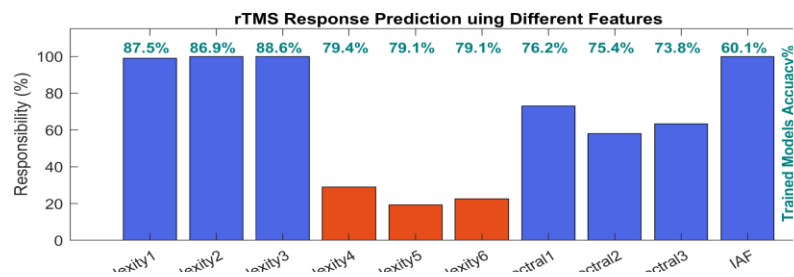
Network Performance

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

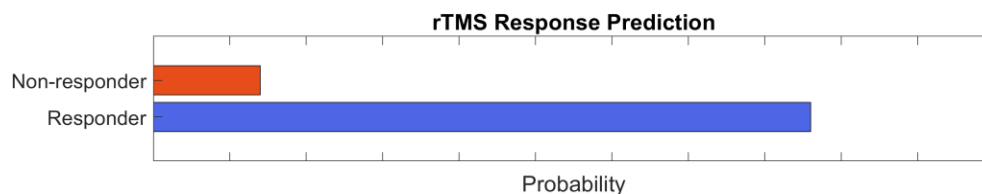
Participants Information



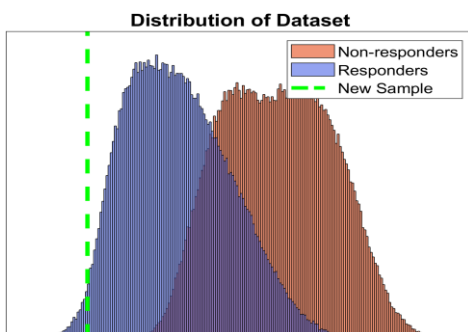
Features Information



Responsibility



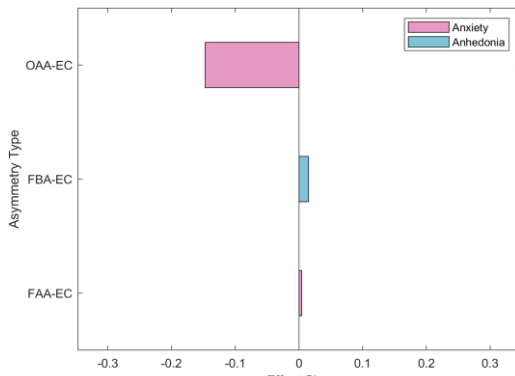
Data Distribution



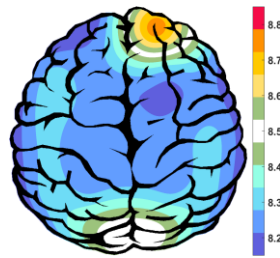
About Predicting rTMS Response

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.

Alpha Asymmetry(AA)



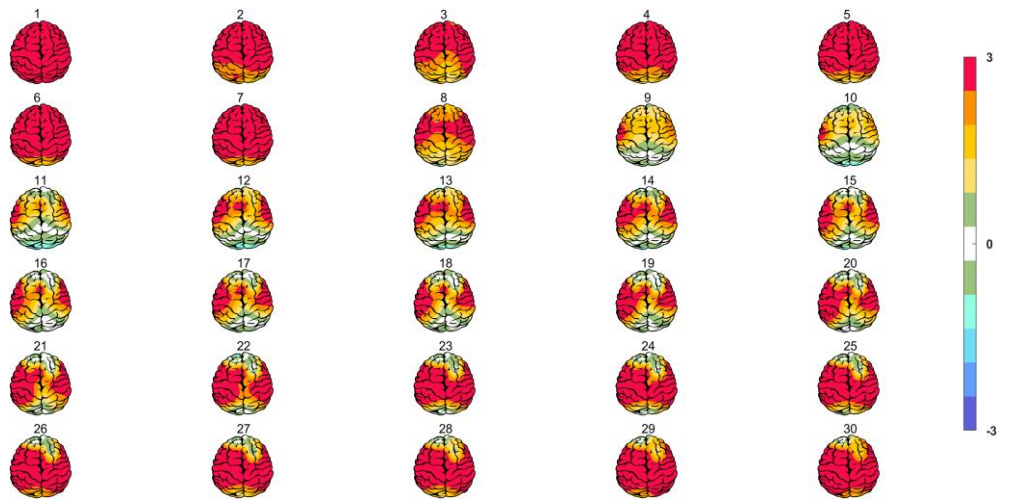
APF(EC)



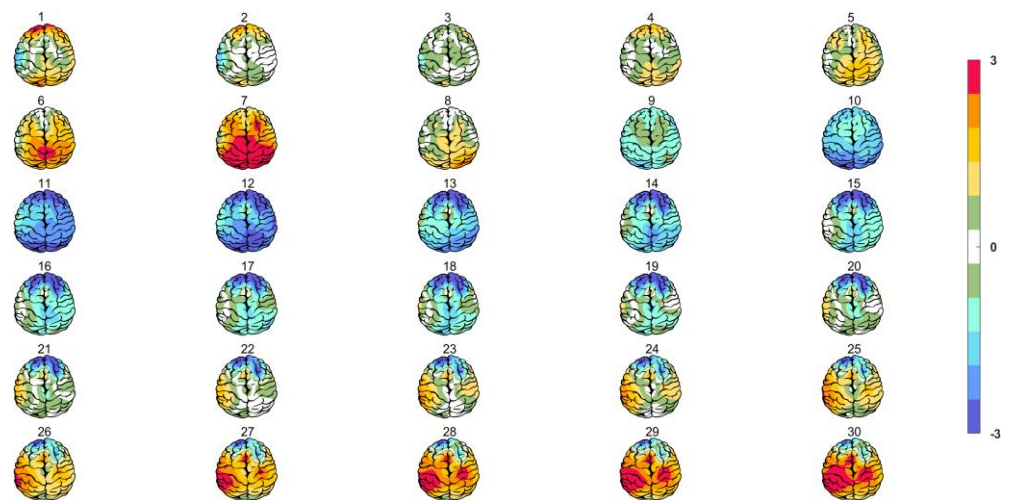
Frontal APF= 08.25

Posterior APF= 08.25

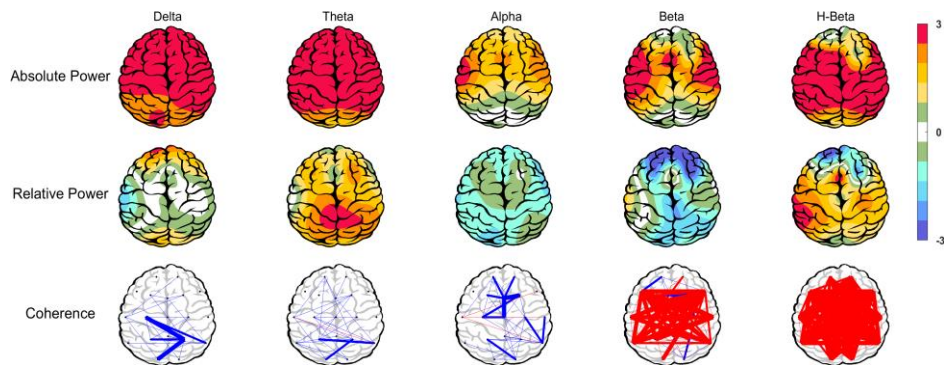
Absolute Power-Eye Closed (EC)



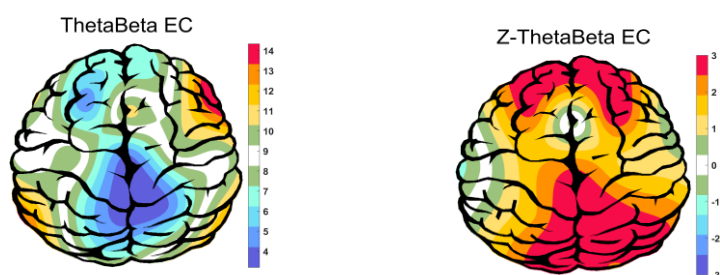
Relative Power-Eye Closed (EC)



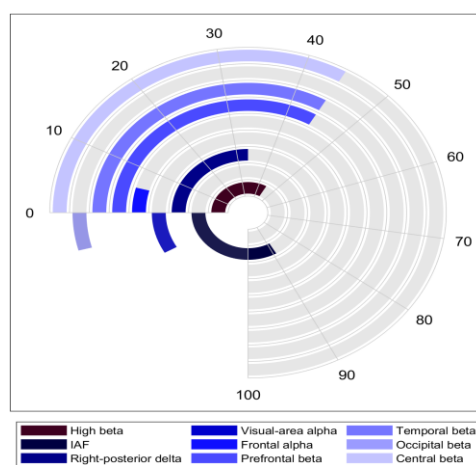
Z Score Summary Information (EC)



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



Arousal Level



EEG Spectra

