EEG Norm DB Comparative Analysis Results

Name
raut vlad

Analysis No.
138543

Date of Birth
1978-04-07(47)

Measurement date
2026-02-07

Sex
Male

Eyes Closed / Eyes Open
Eyes Closed

This result is calculated using iSyncBrain, a cloud-based AI brainwave automatic analysis platform, and compared to the standards for healthy Koreans by gender and age.

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I . Personal Data

Norm DB analysis no.	Client Name	Sex	Date of Birth(age)	Measurement date	EC/EO	Handedness	Disease code
138543	raut vlad	Male	1978-04-07(47)	2026-02-07	Eyes Closed	Right-handed	-

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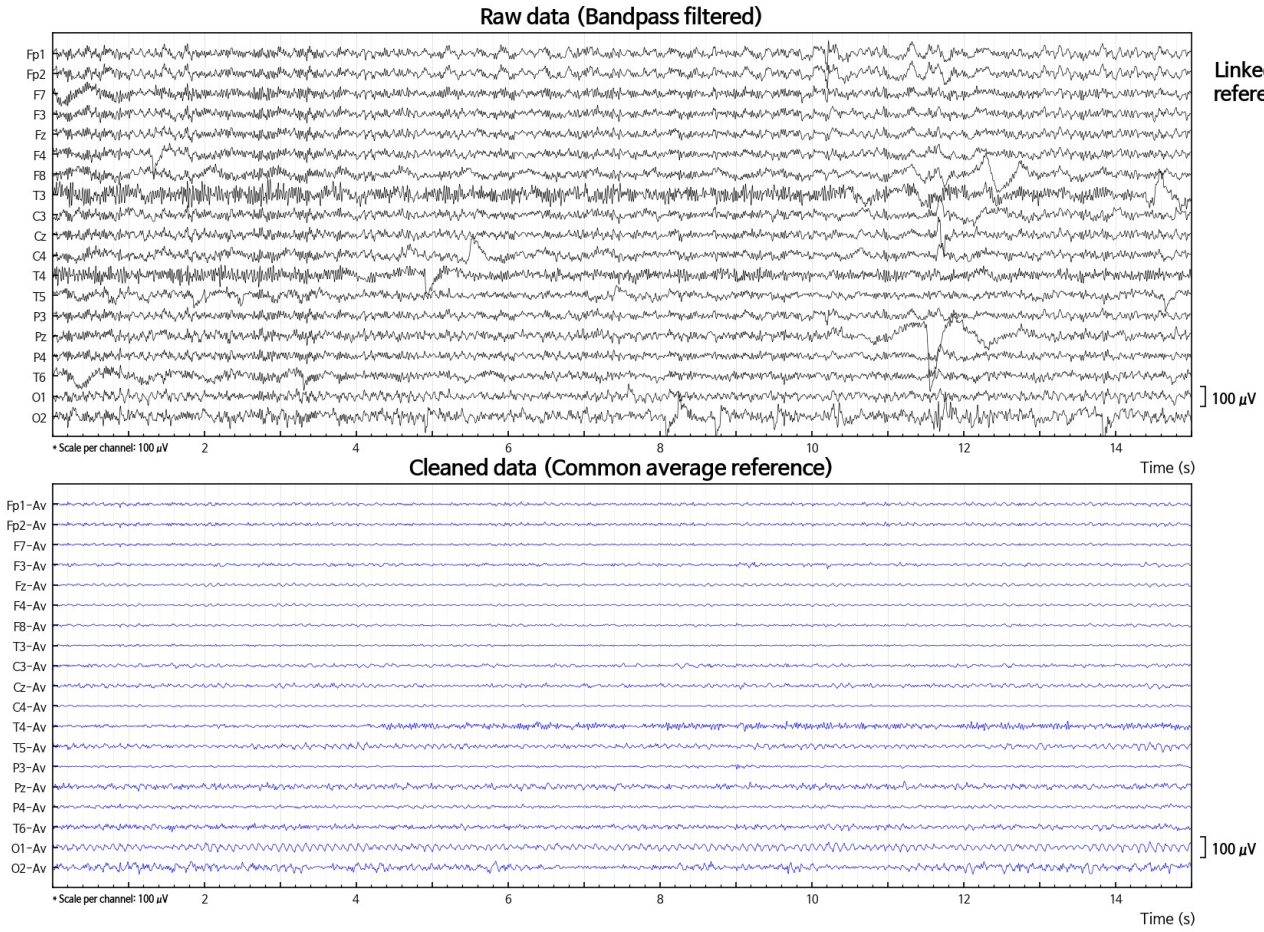
II.EEG

1.Raw Data

EEG data is a record of the oscillations of electrical brain potentials recorded from electrodes on the human scalp (T100) (T101) (T005) . The raw data in the figure below have been cleaned by the application of high-pass and low-pass filters. This markedly reduces distortions (artifacts) from common physiological sources such as face or eye muscle movements, as well as extrinsic non-physiological sources such as electrical devices, power lines, poor electrode contact.



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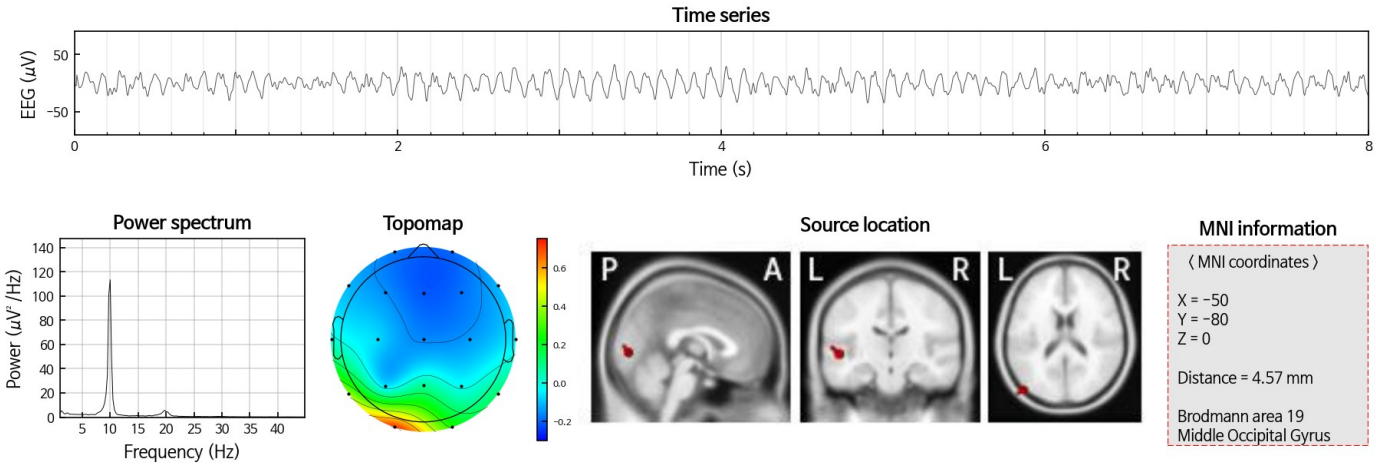
2.ICA components

Independent component analysis (ICA) is a statistical method to separate independent sources from superimposed signals. It is the most common method that has been used in EEG data decomposition, and can be used to identify and remove the artifacts from raw EEG data. Features including time series, power spectrum density (PSD), component scalp map (Topomap), dipole source location (Source location) extracted from ICA are shown for each component.

Artifact Component No.	6,7,9,10,13,14,15,16

[Component 1]



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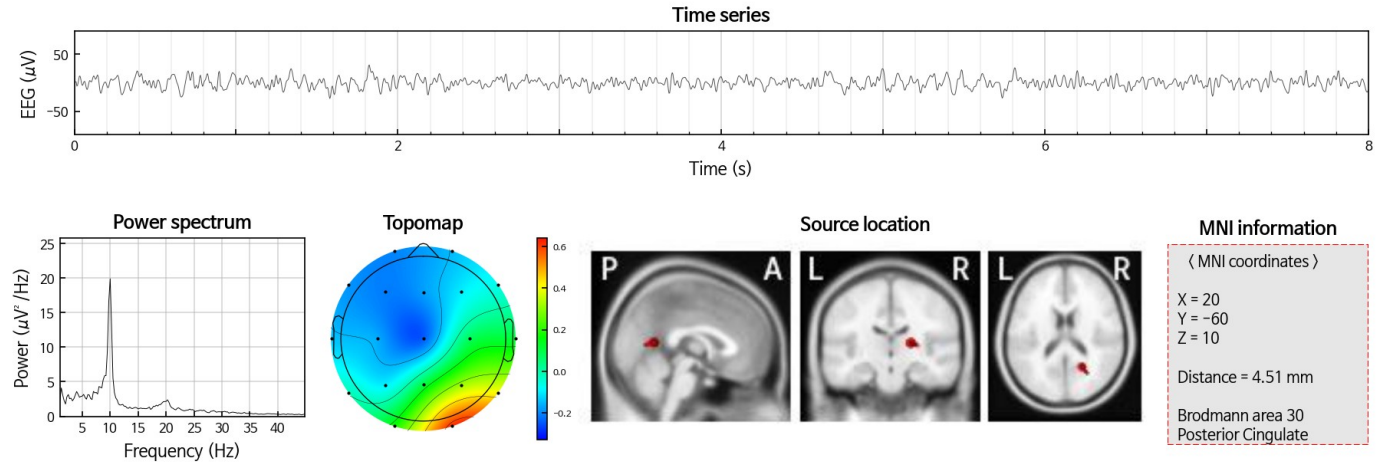

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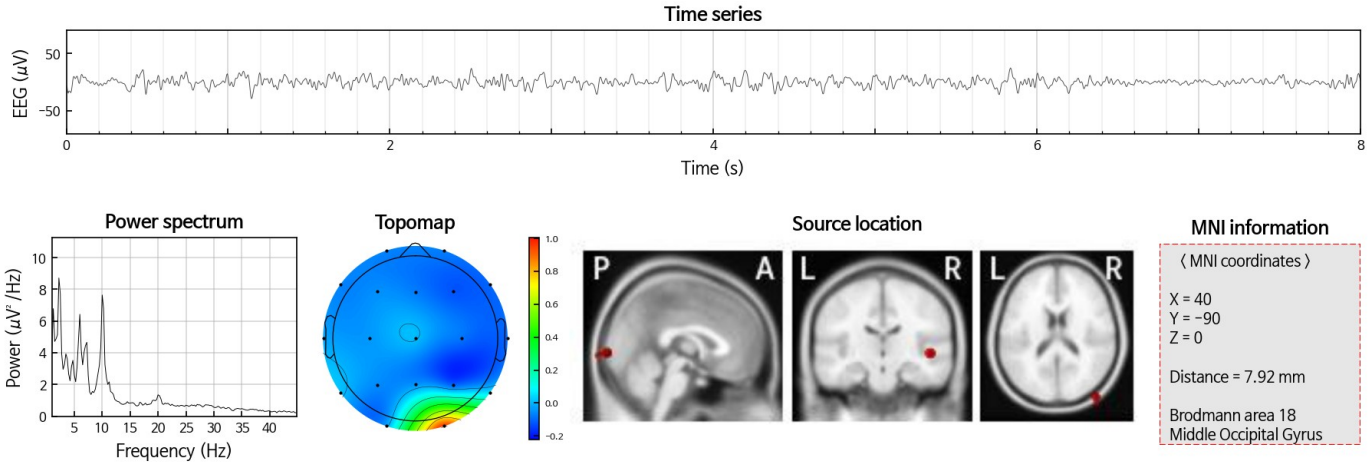

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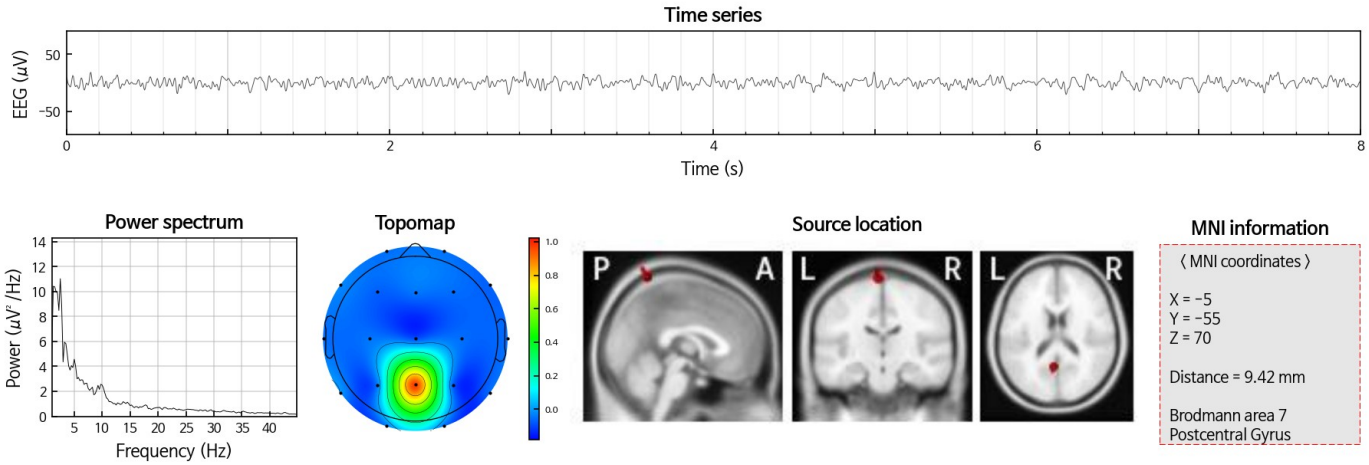

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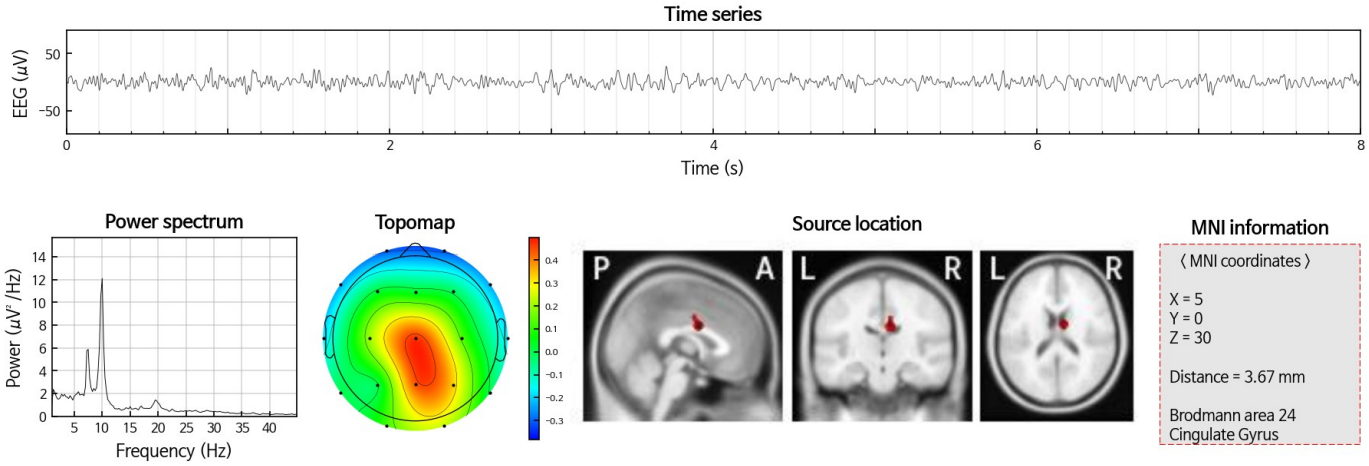

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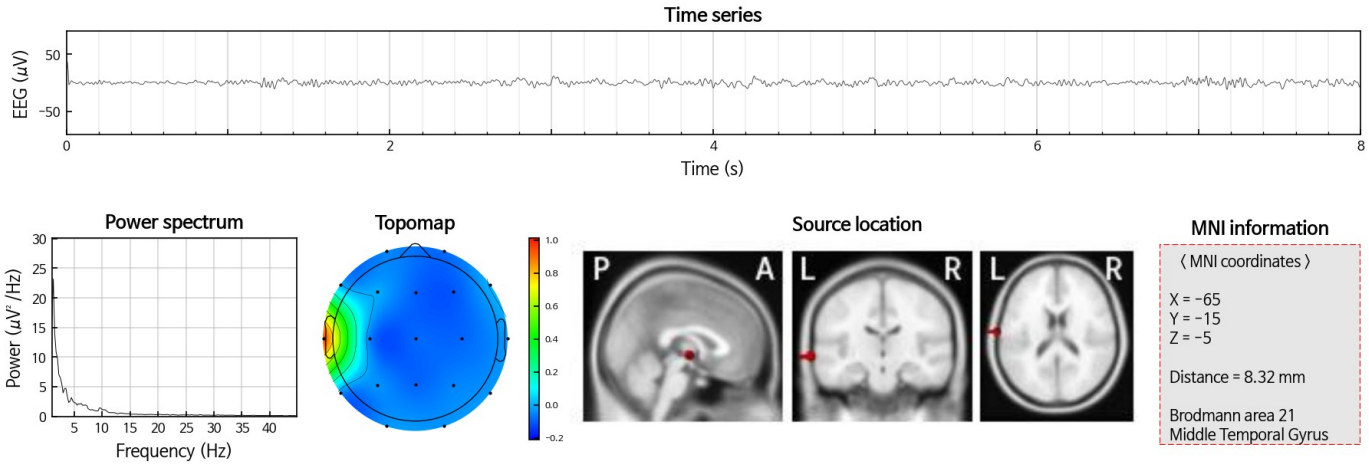

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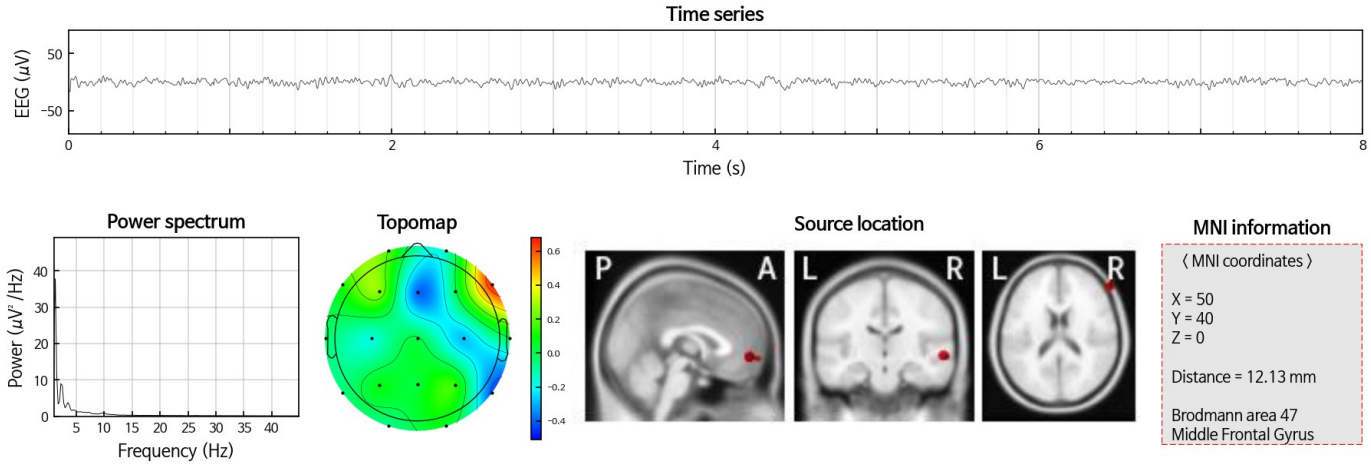

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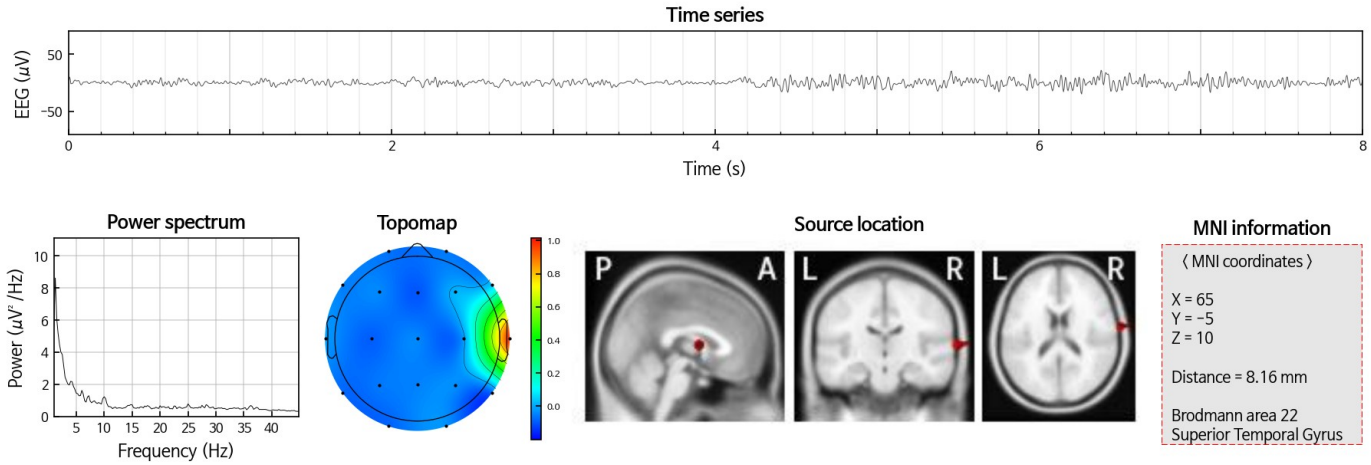

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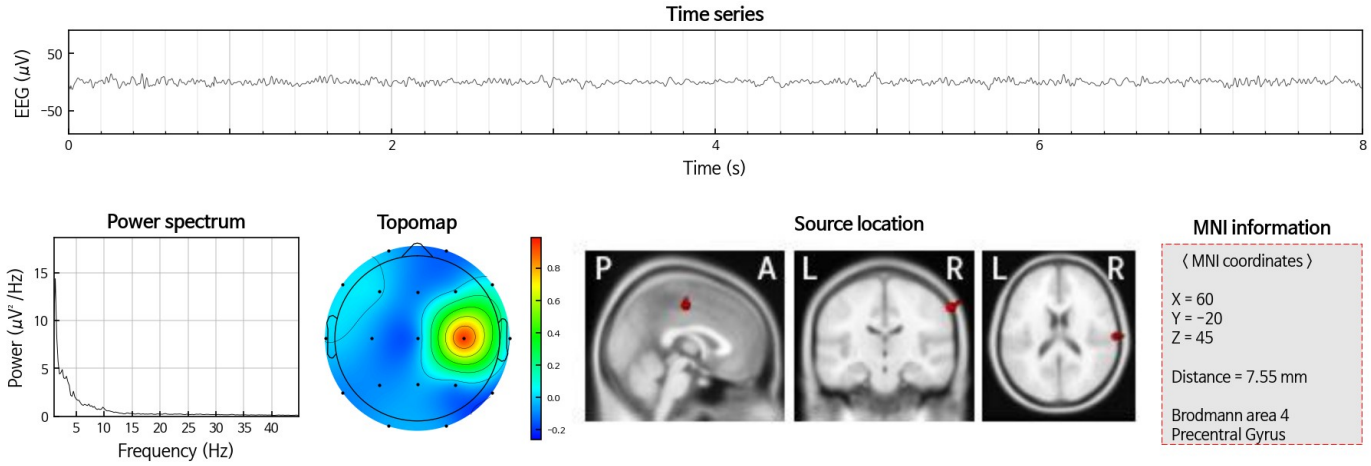

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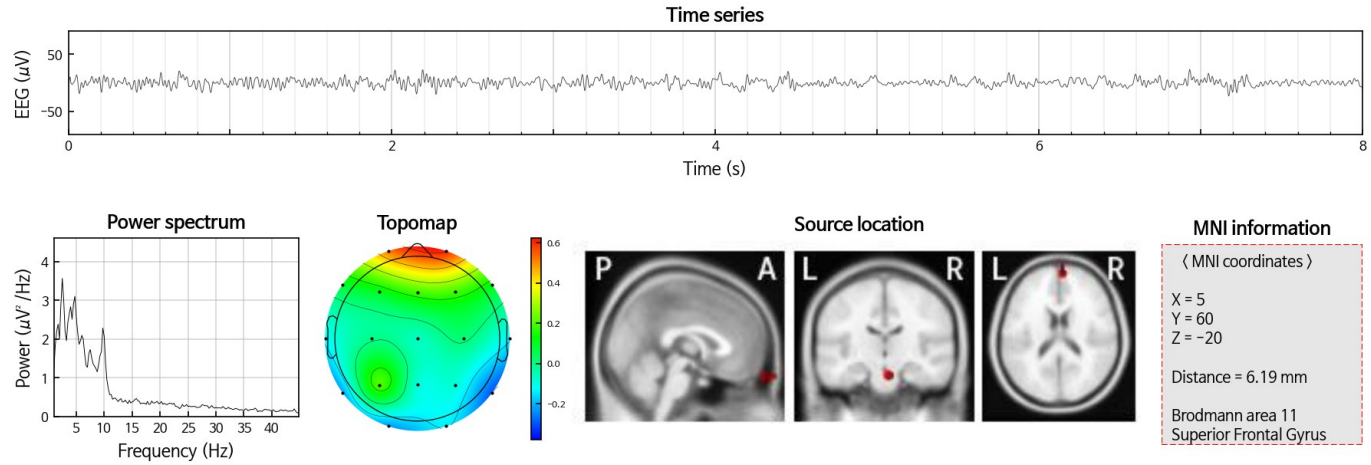

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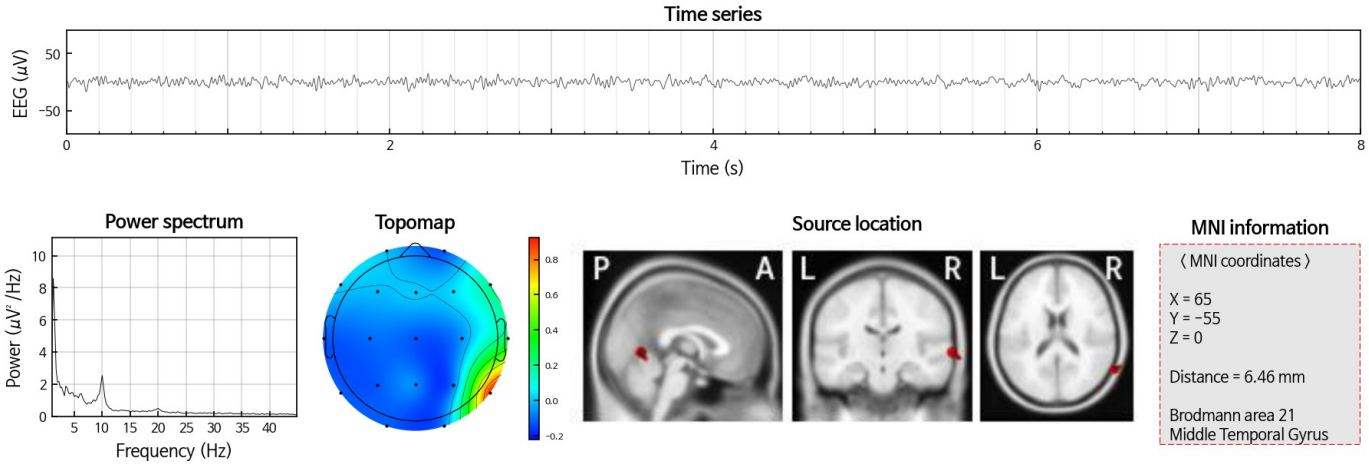

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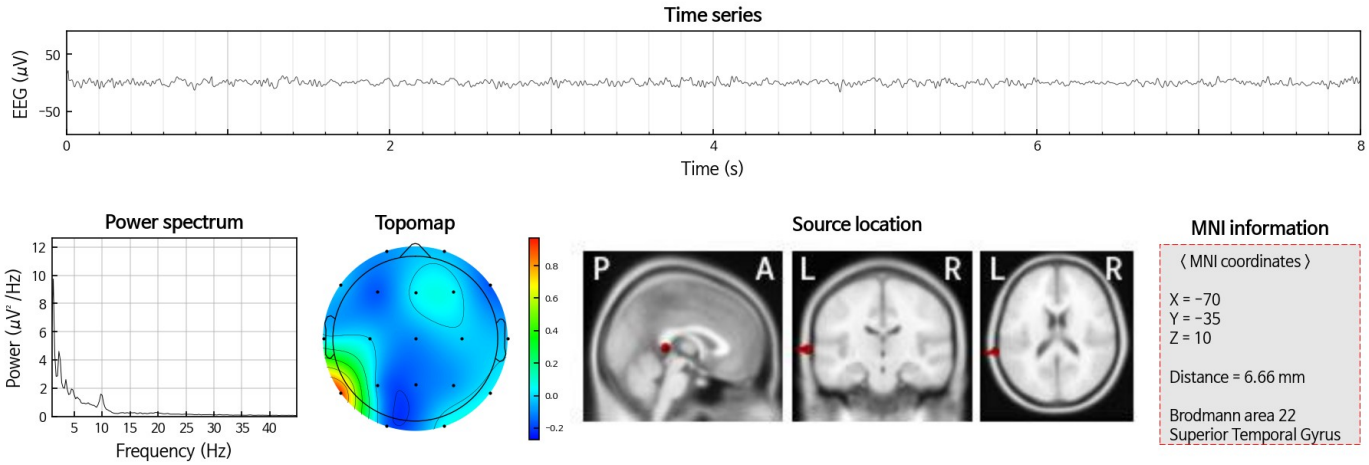

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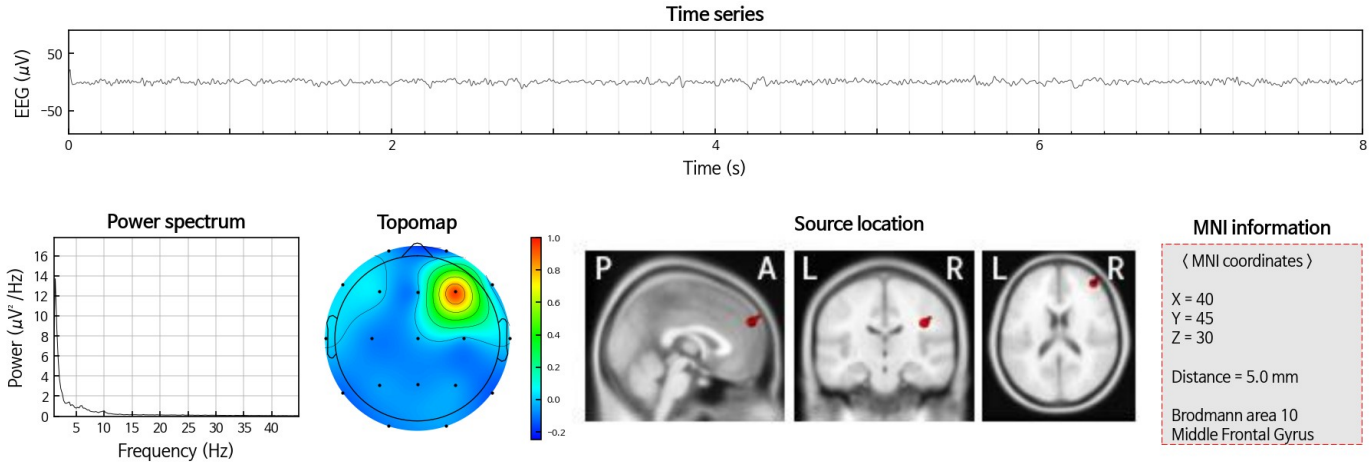

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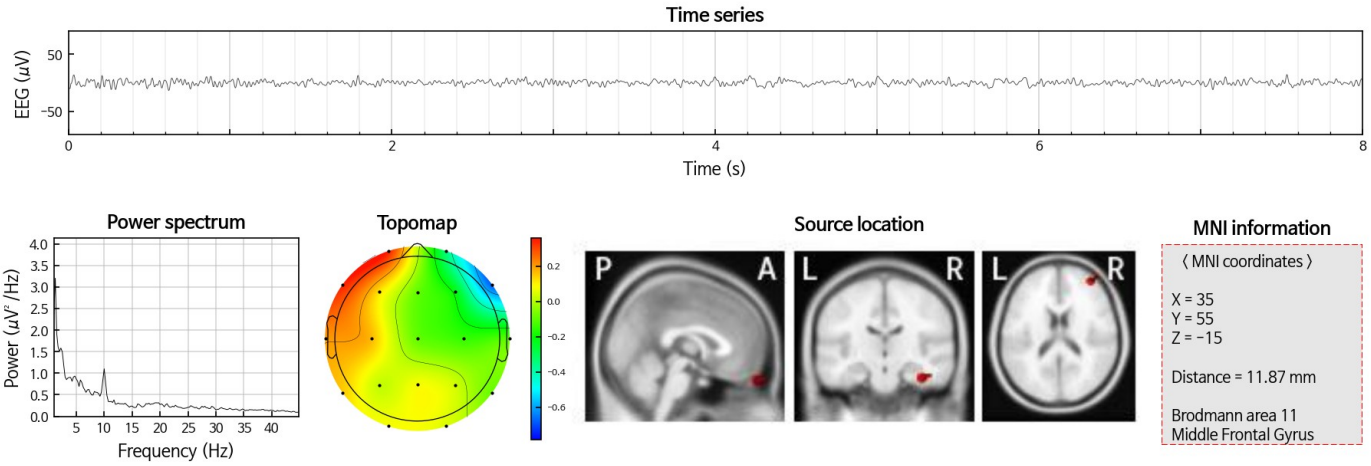

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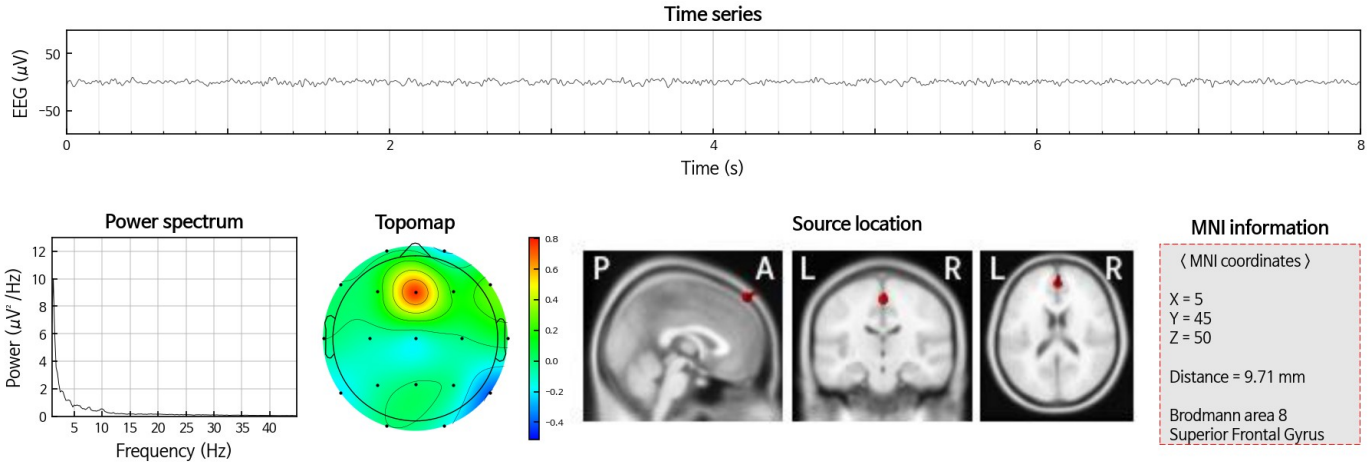

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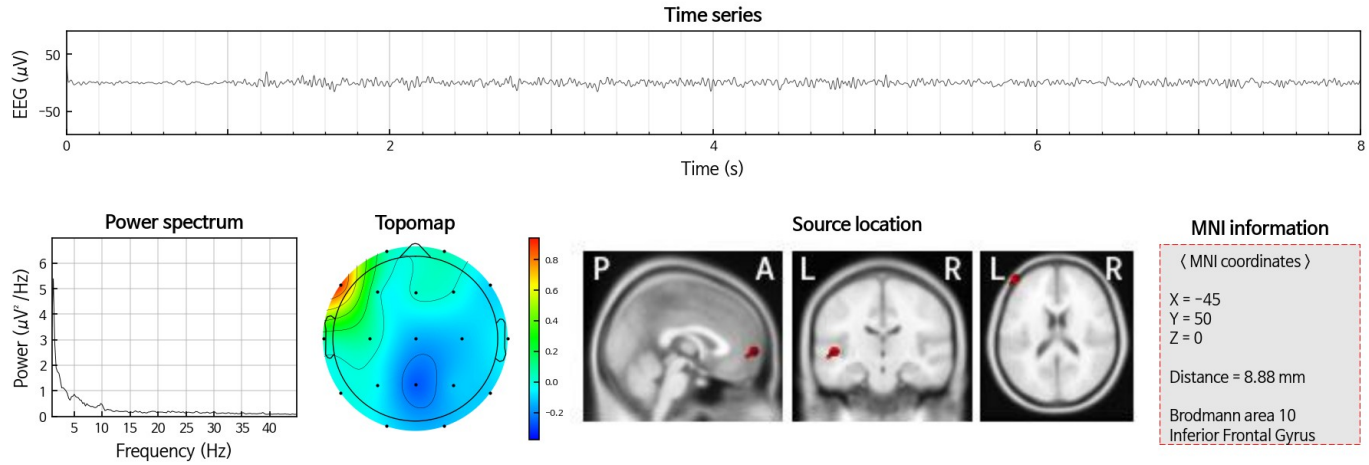

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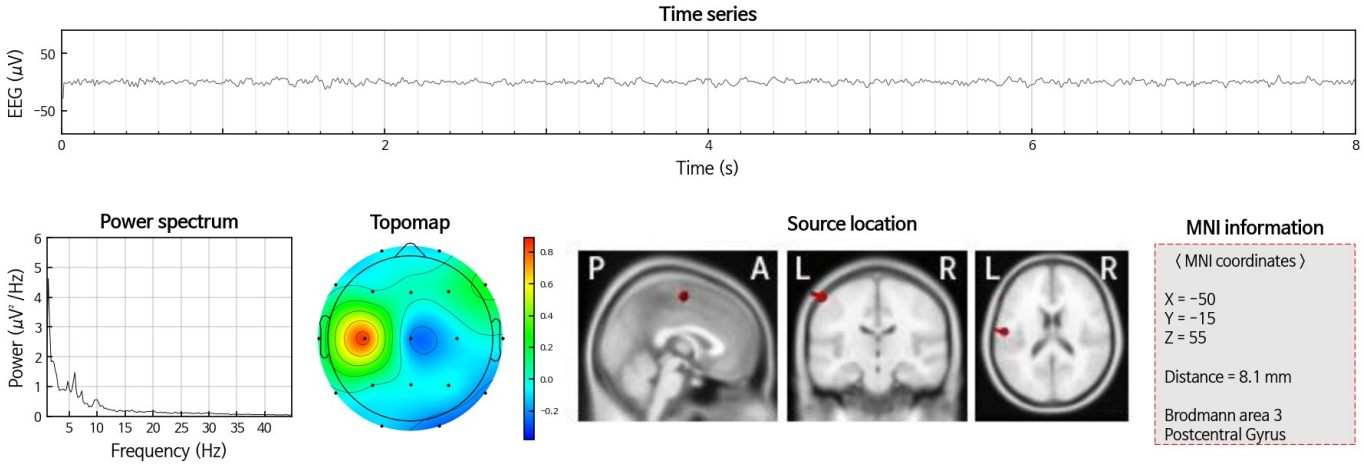

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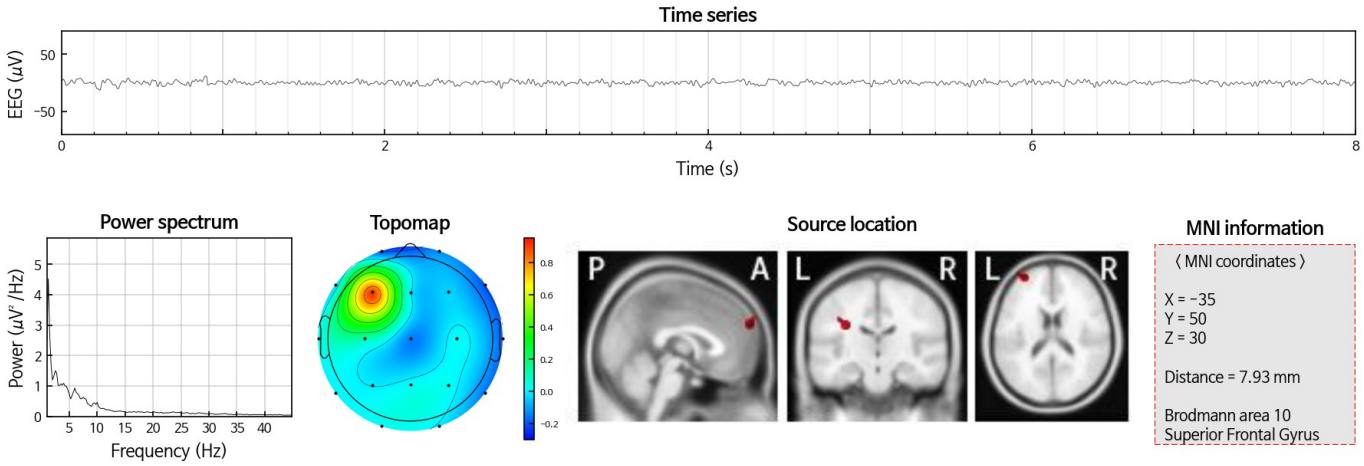

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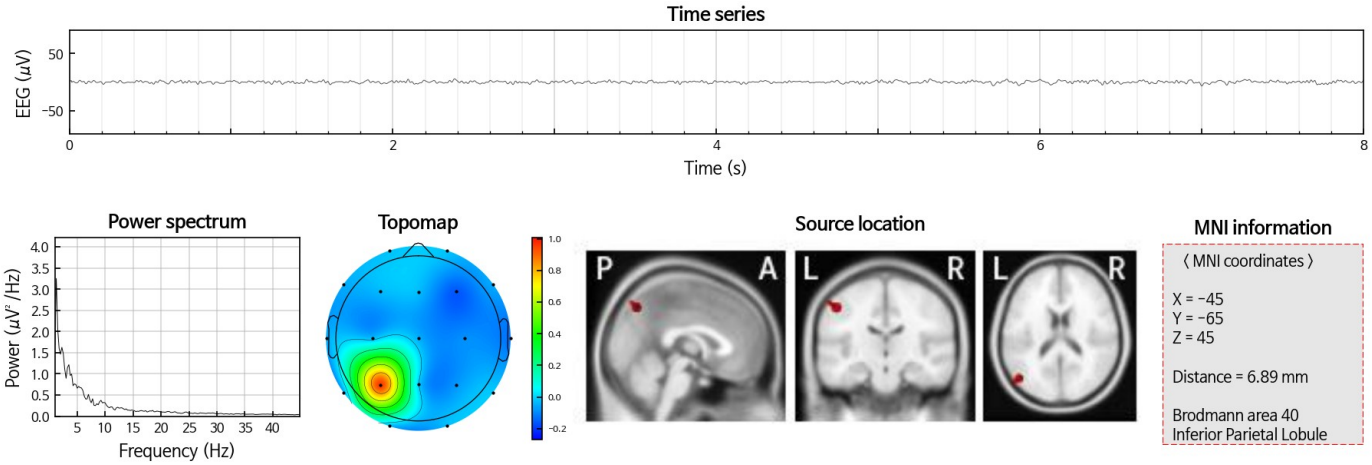

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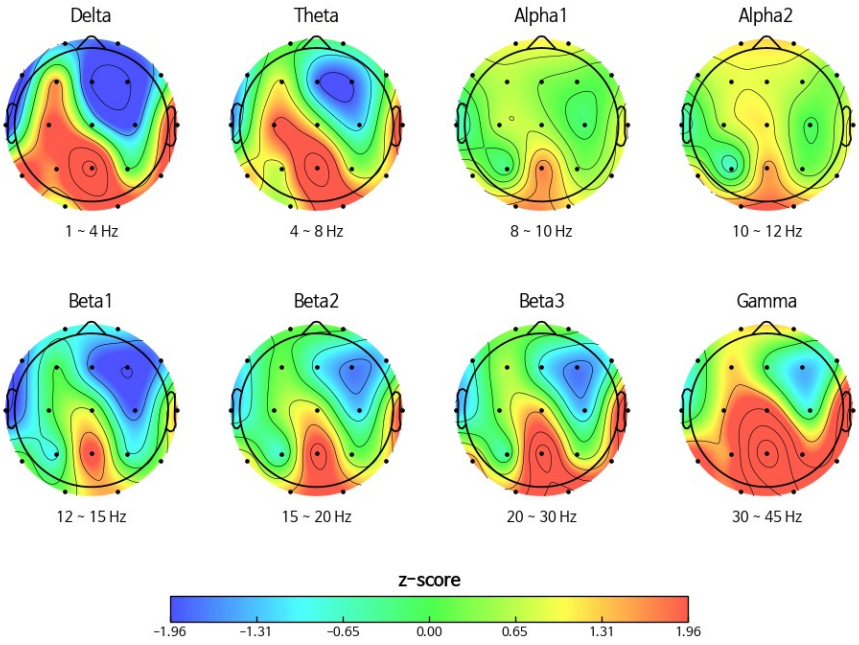
3. Band power – Topomap

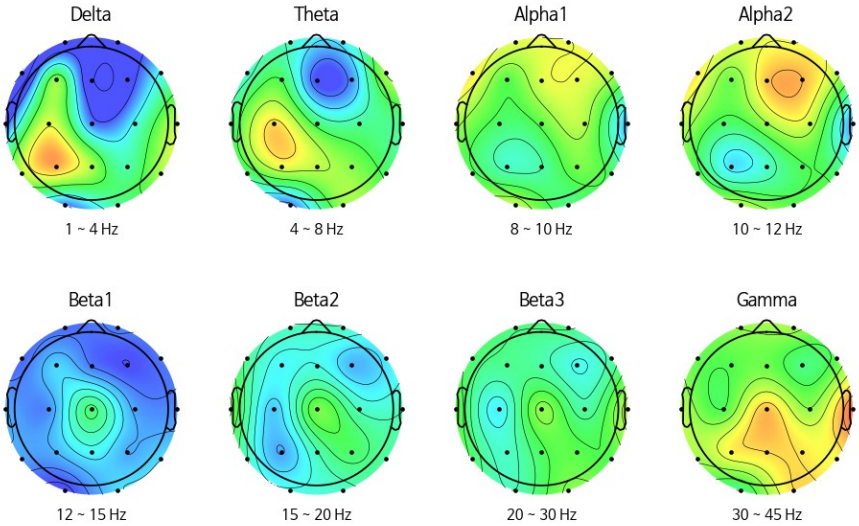
In power spectral density(PSD) 2D map, topomaps of absolute and relative power in 1 Hz bins (1 - 45 Hz) as well as each frequency band are presented. Absolute power is the sum of the component powers for each frequency band. Relative power is the absolute power in a specific frequency band divided by the total power. It is advisable to compare relative power with absolute power, since absolute power reflects the individual differences due to variations in brain tissue. This feature provides absolute and relative power based on six brain regions (prefrontal, frontal, left temporal, right temporal, central, parietal, and occipital). The power spectra for each of the 19 channels are shown in the following feature, PSD spectrum (below).

3-1 Band

[Topomap (Abs. power)]



[Topomap (Rel. power)]



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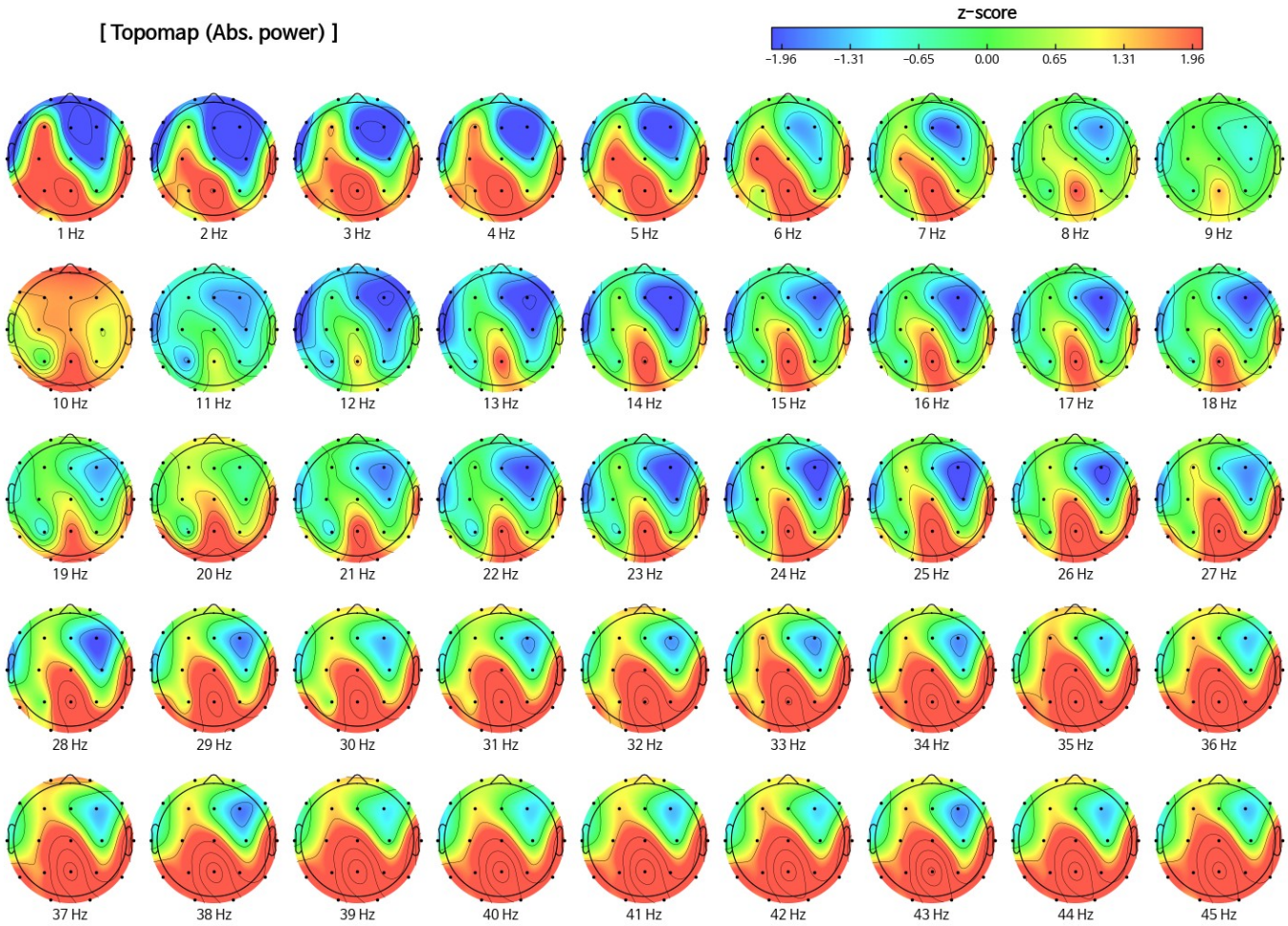
3-2 Absolute



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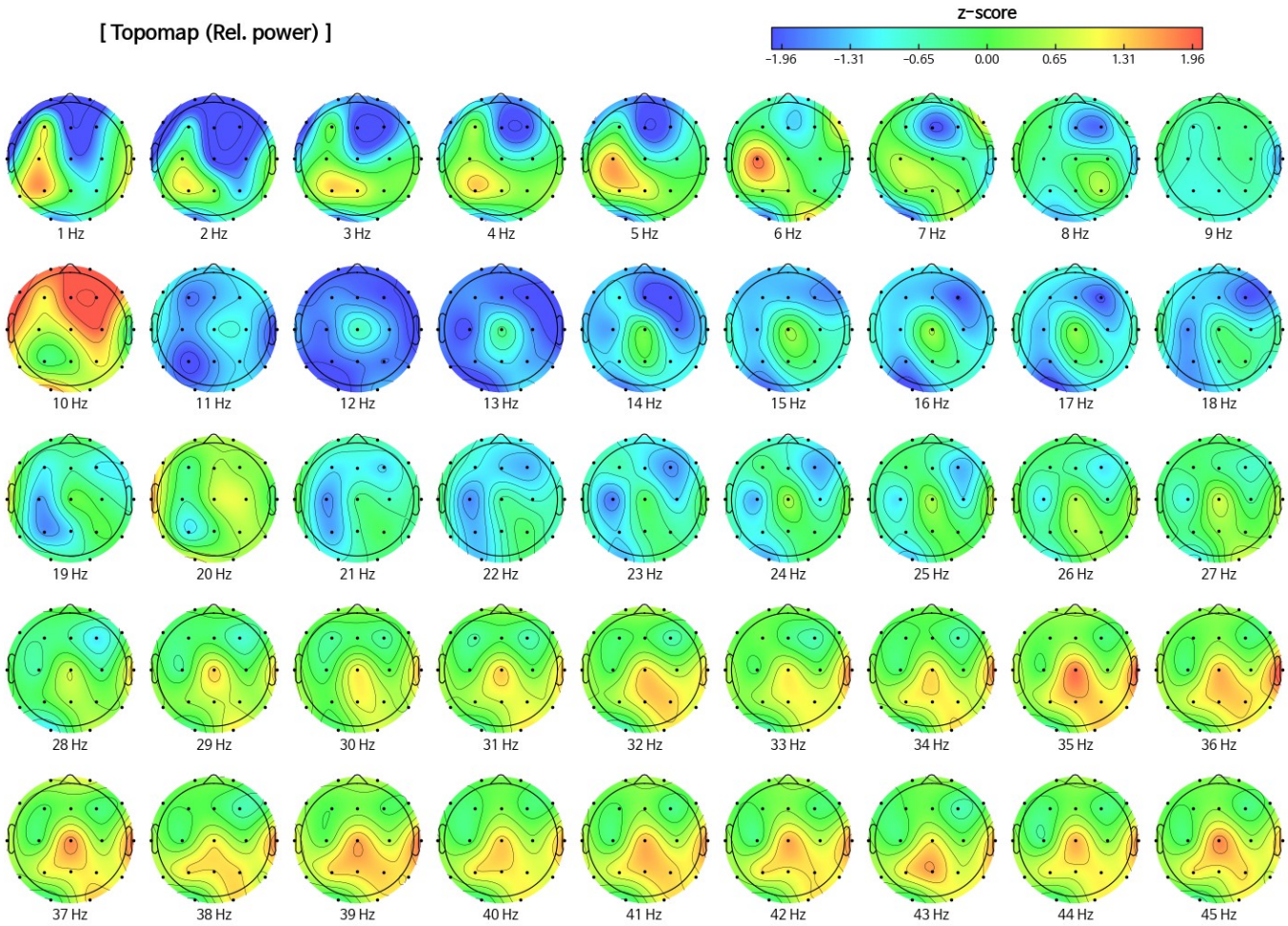
3-3 Relative



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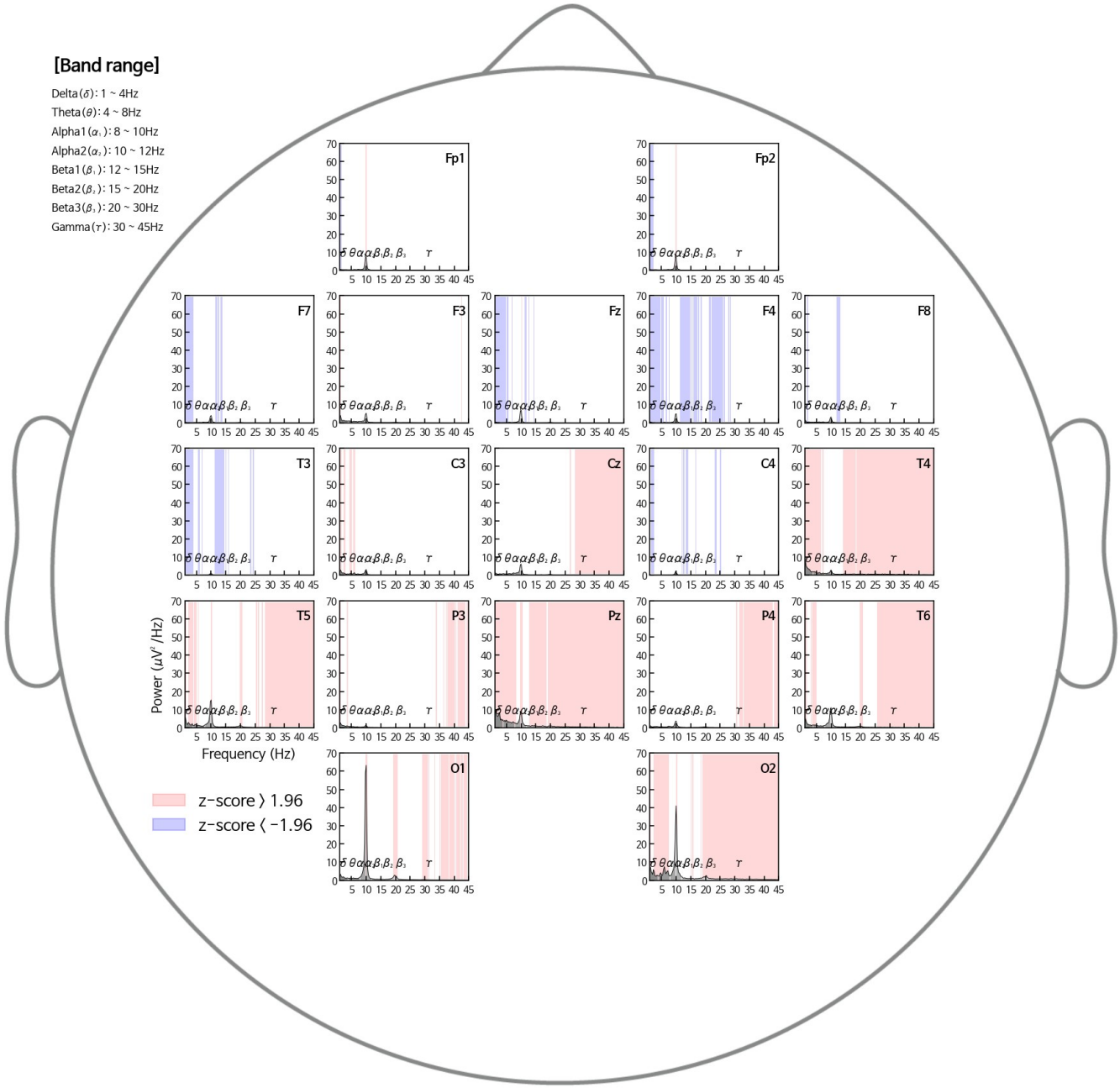
4.Power spectrum

It shows the EEG power measured from 19 channels. It presents the amplitude of power in units of μV^2 / Hz or dB/Hz to obtain the frequency characteristics of the alpha band or beta band, respectively. The area shaded in black is the power spectrum of the subject and blue or red area indicates that the z-score of the power spectrum of the subject in specific frequency bands is increased or decreased compared to the age & sex matched normative EEG database.

4-1 Absolute (μV2/Hz)



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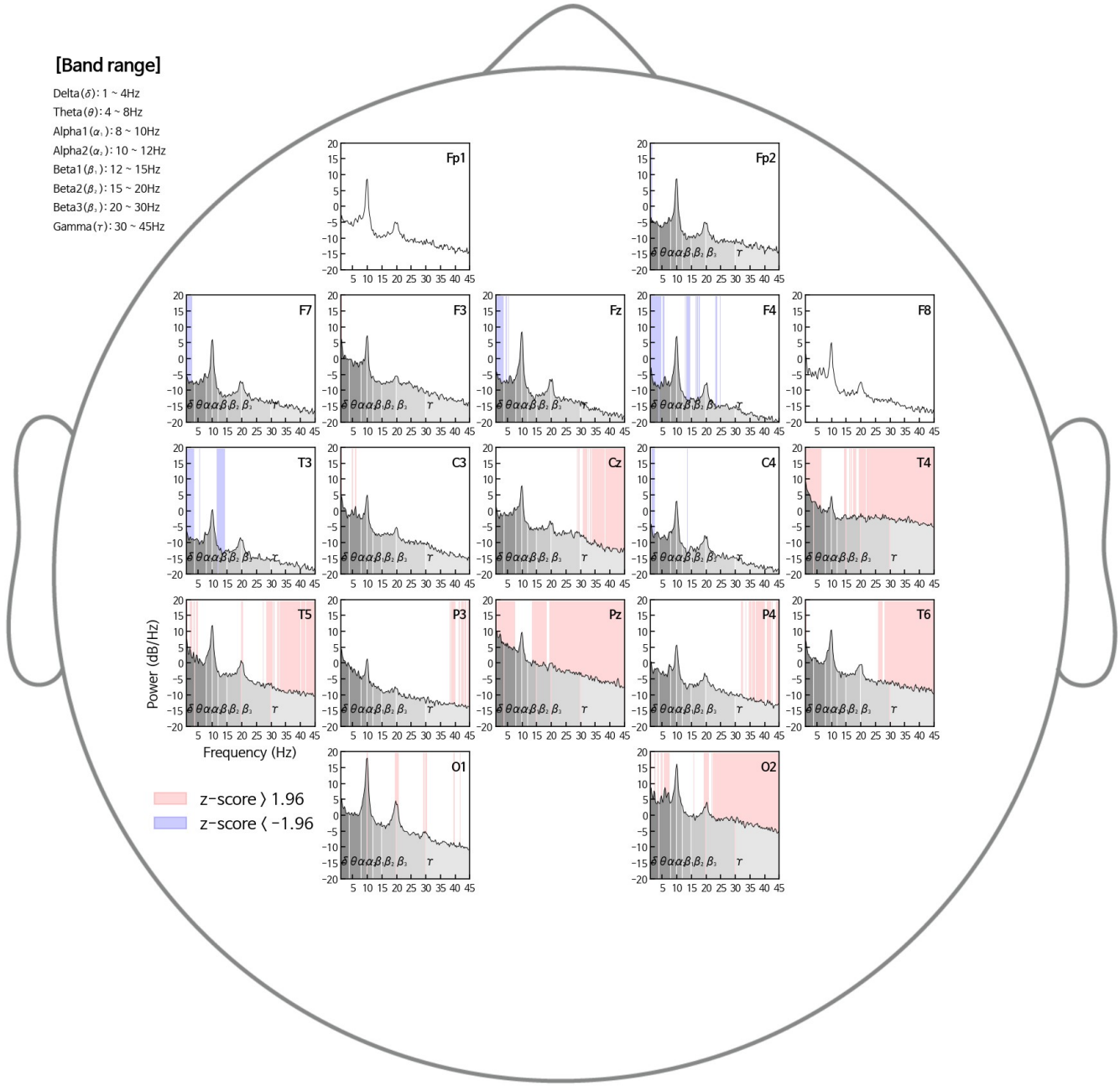
4-2 Absolute (dB/Hz)



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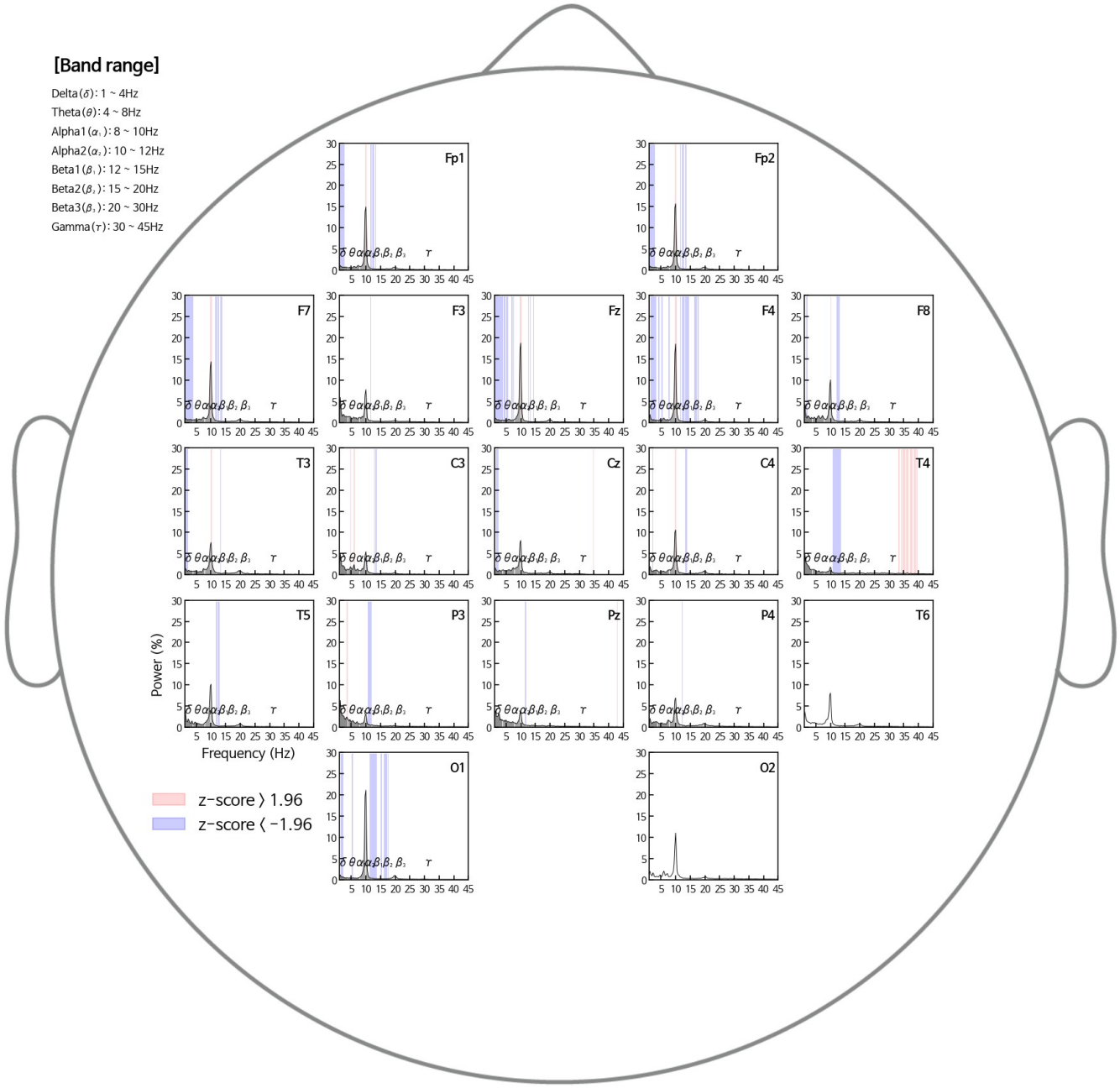
4-3 Relative



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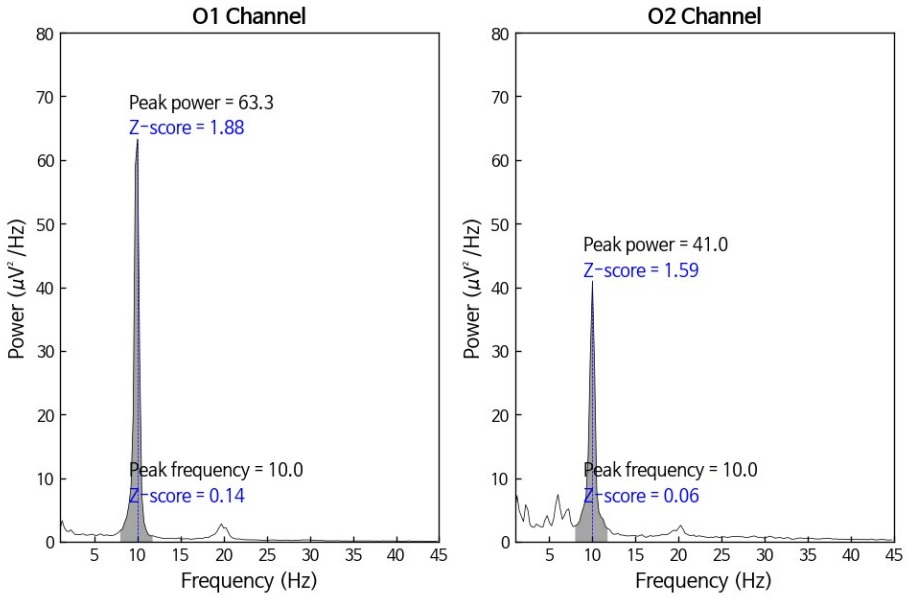
5. Occipital alpha peak

The occipital alpha frequency is the frequency at which oscillations in the alpha range (8 - 12 Hz) in the occipital regions present their maximum power. This feature shows the percentiles of peak amplitude and frequency compared with the normative EEG database in occipital regions. Alpha frequency may vary markedly to a large extent as a function of age, neurological disease status, memory performance, cognitive processing, and other factors (T179) .

Clinical significance
-Resting state alpha rhythms show decreased amplitude in both Alzheimer`s disease and mild cognitive disorder, compared with normal elderly subjects (T148) (T149) (T150) (T151) (T152) (T153) (T154) (T155) .
-Decreased alpha frequency is known to reflect neurological diseases such as dementia, Alzheimer`s disease, brain injuries, and age-related cognitive performances (T157) (T158) (T159)
-Occipital alpha peak frequency is decreased in autism spectrum disorder (ASD) and furthermore, it is strongly correlated with non-verbal cognition within ASD group (T156) .



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6. Power ratio

(1)Theta/beta ratio
The theta/beta ratio (TBR) is the ratio of theta (4 - 8 Hz) to beta (13 - 21 Hz) power during the resting conditions. It tends to reflect attention-related functions (T091) (T219) .

Clinical significance
-Increased TBR is associated with increased reward responsiveness, risk taking and impulsiveness and it tends to reflect attentional control functioning and behavioral inhibition process (T180) .
-The majority of children with ADHD is characterized by increased theta activity and decreased beta activity coupled, and thus a higher TBR (T011) .

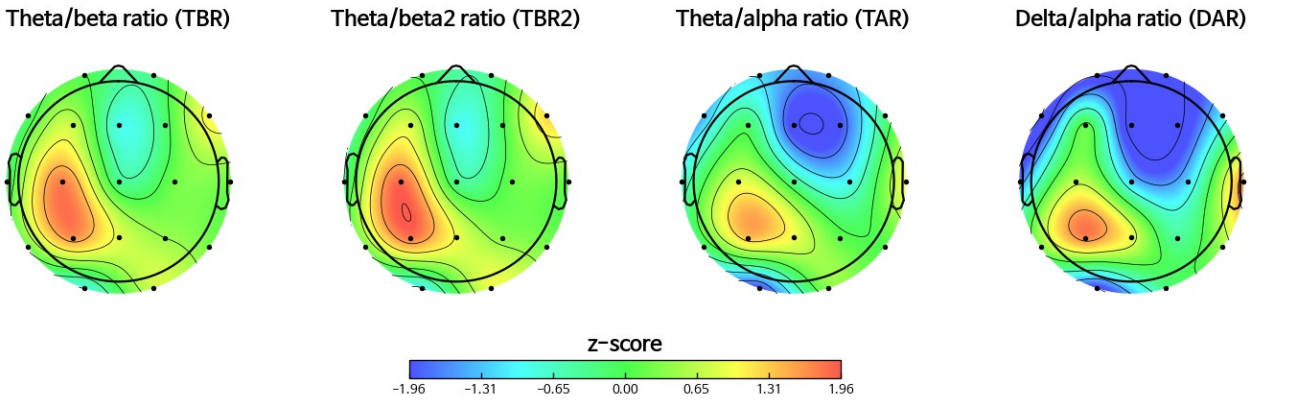
(2)Theta/alpha ratio
The theta/alpha ratio (TAR) is the ratio of theta (4 - 8 Hz) to alpha (8 - 12 Hz) relative power during the resting conditions and reflects cognitive ability, especially learning and memory-related functions.

Clinical significance
-Increased TAR is associated with decreased cognitive ability (T207) .
-The majority of older adults with amnestic mild cognitive impairment (aMCI) and probable Alzheimer`s disease (AD) is characterized by increased theta activity and decreased alpha activity coupled (T200) (T201) (T202) .

(3)Delta/alpha ratio
The delta/alpha ratio (DAR) is the ratio of delta (1 - 4 Hz) to alpha (8 - 12 Hz) relative power during the resting conditions and associated with cognitive deficit and functional outcome after stroke.

Clinical significance
-Increased DAR is associated with cognitive impairment for post stroke in frontal lobe (T204) .
-The majority of patients with stroke is characterized by increased delta activity and decreased alpha activity coupled (T204) (T205) (T206) .

Unit: a.u.



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7. Source ROI power (sLORETA) &connectivity (iCoh)
7-1-All

Source power derives from the EEG channel data using sLORETA (T218) .
The line represents the connectivity (iCoh) of ROIs. Imaginary coherence (iCoh) means the spectral coherence that ignores volume conduction (only using imaginary part).

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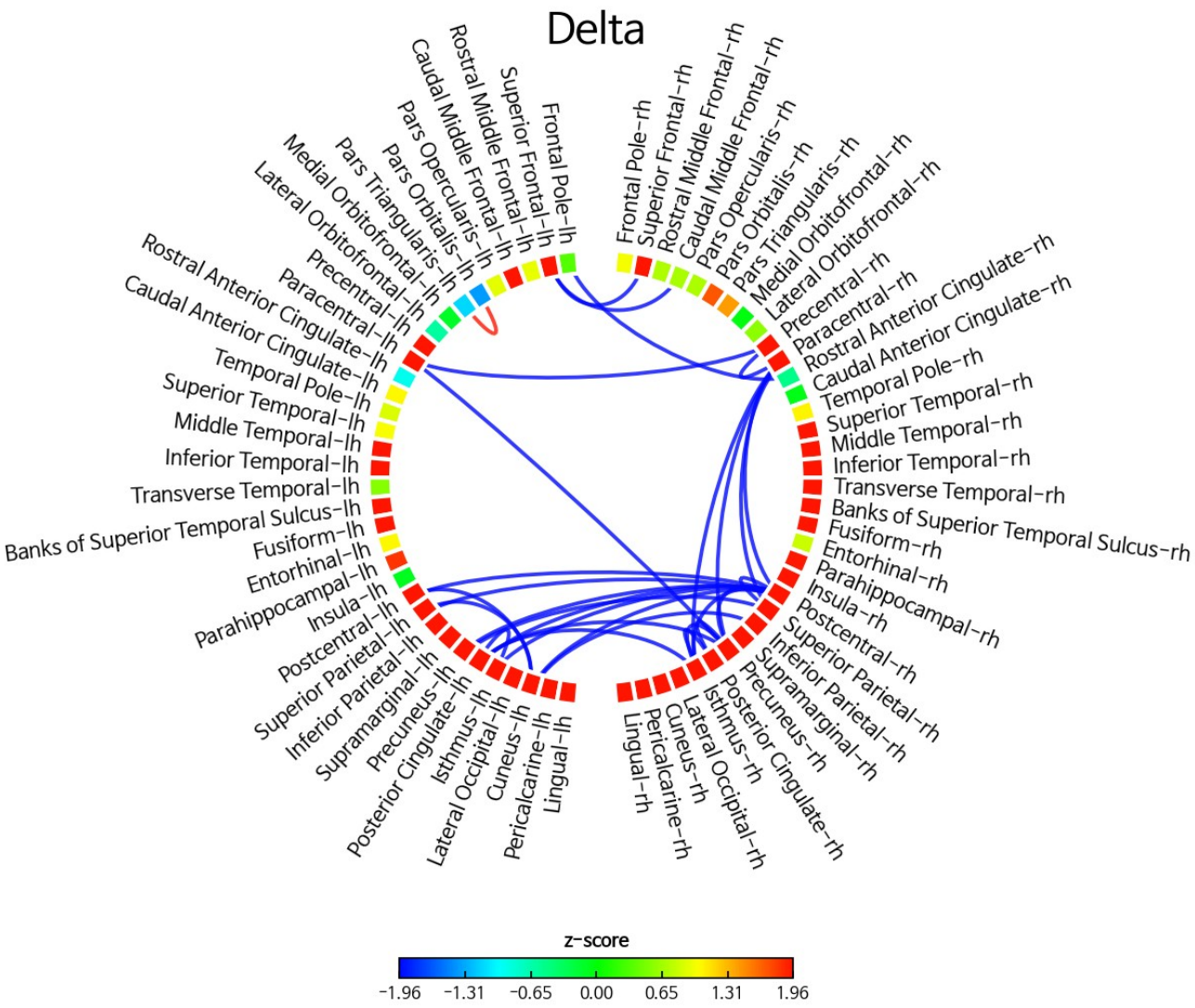
7-1-1-Delta(Absolute)

hyperconnection hypoconnection



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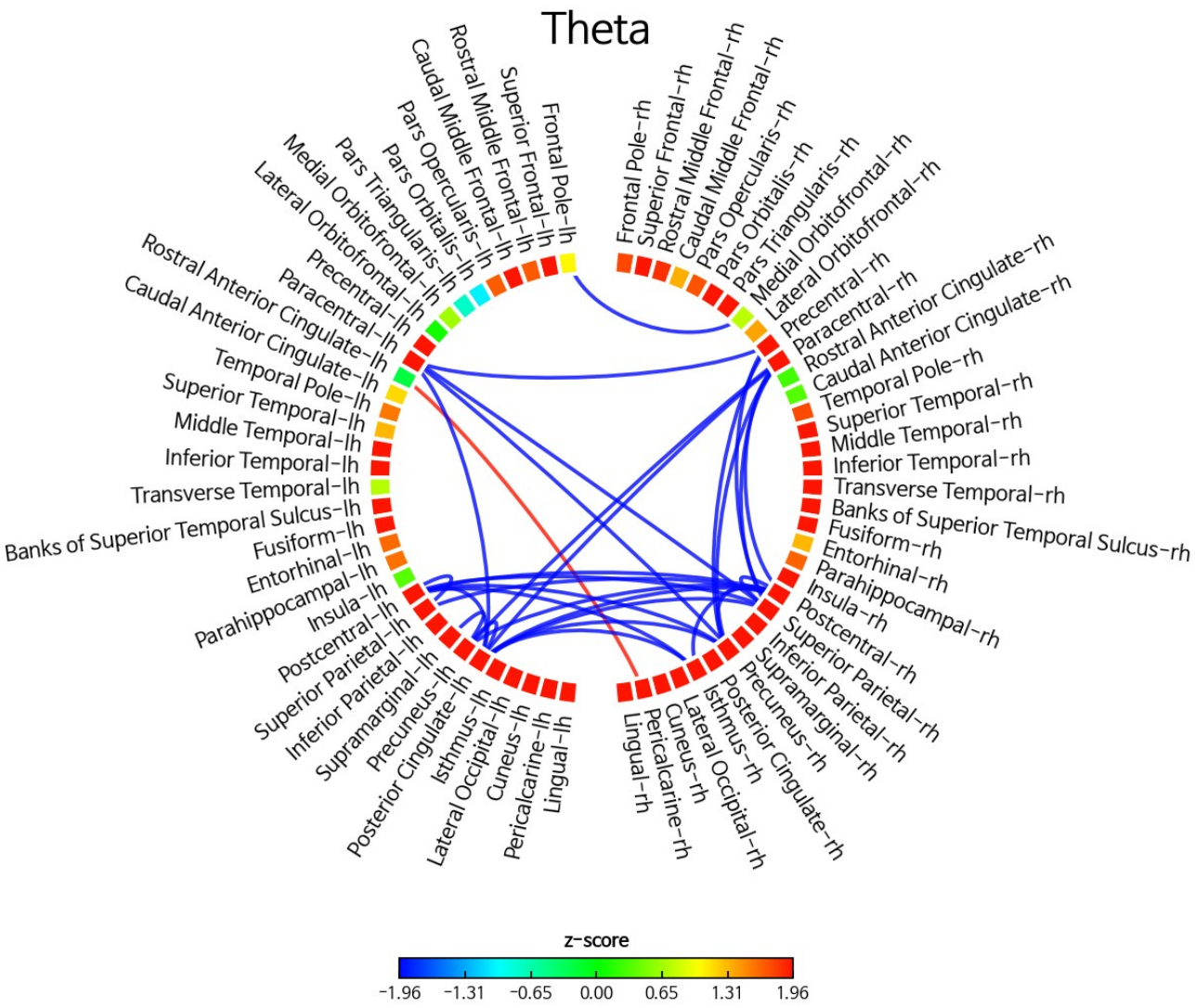
7-1-2-Theta(Absolute)

hyperconnection hypoconnection



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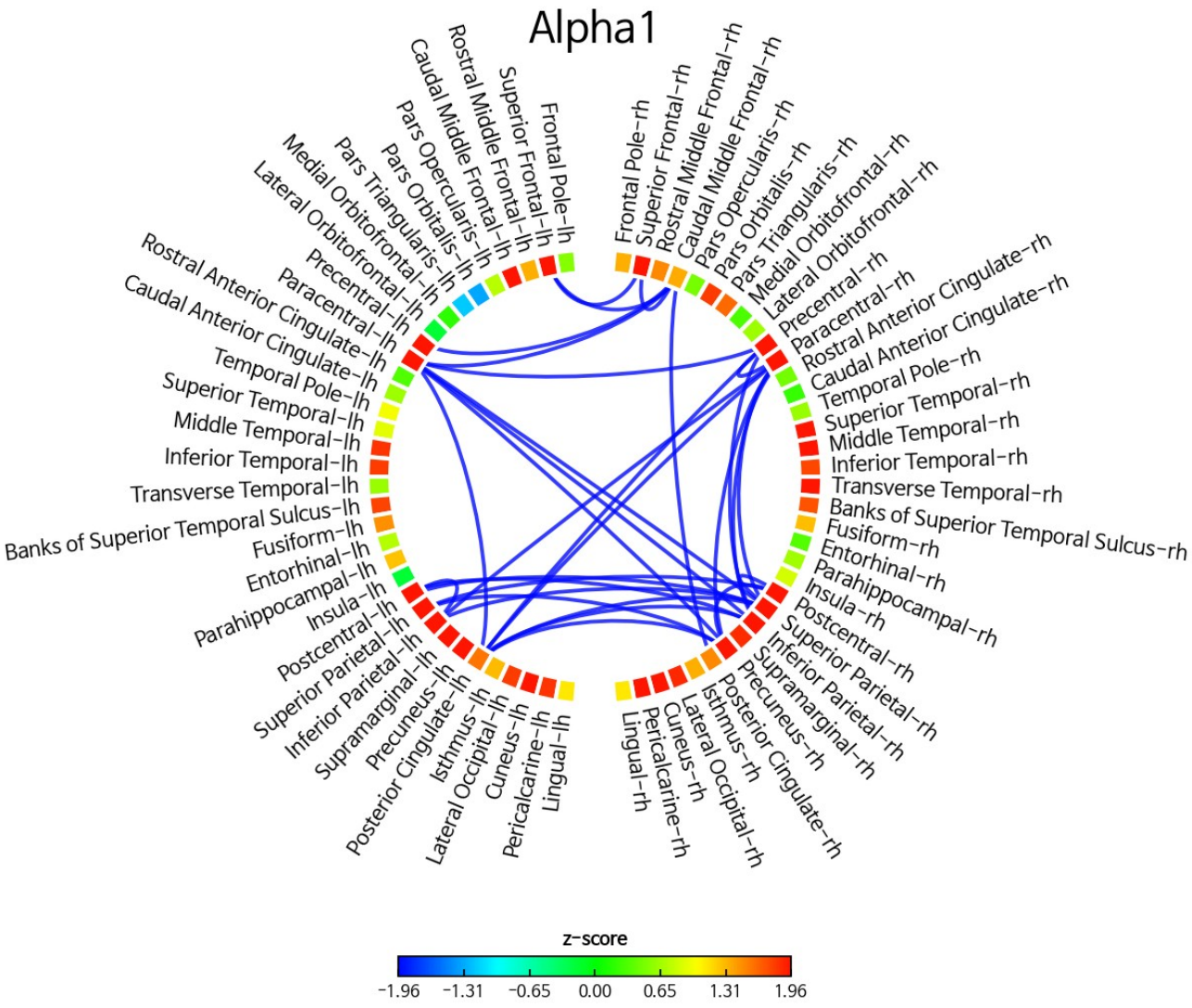
7-1-3-Alpha1(Absolute)

hyperconnection hypoconnection



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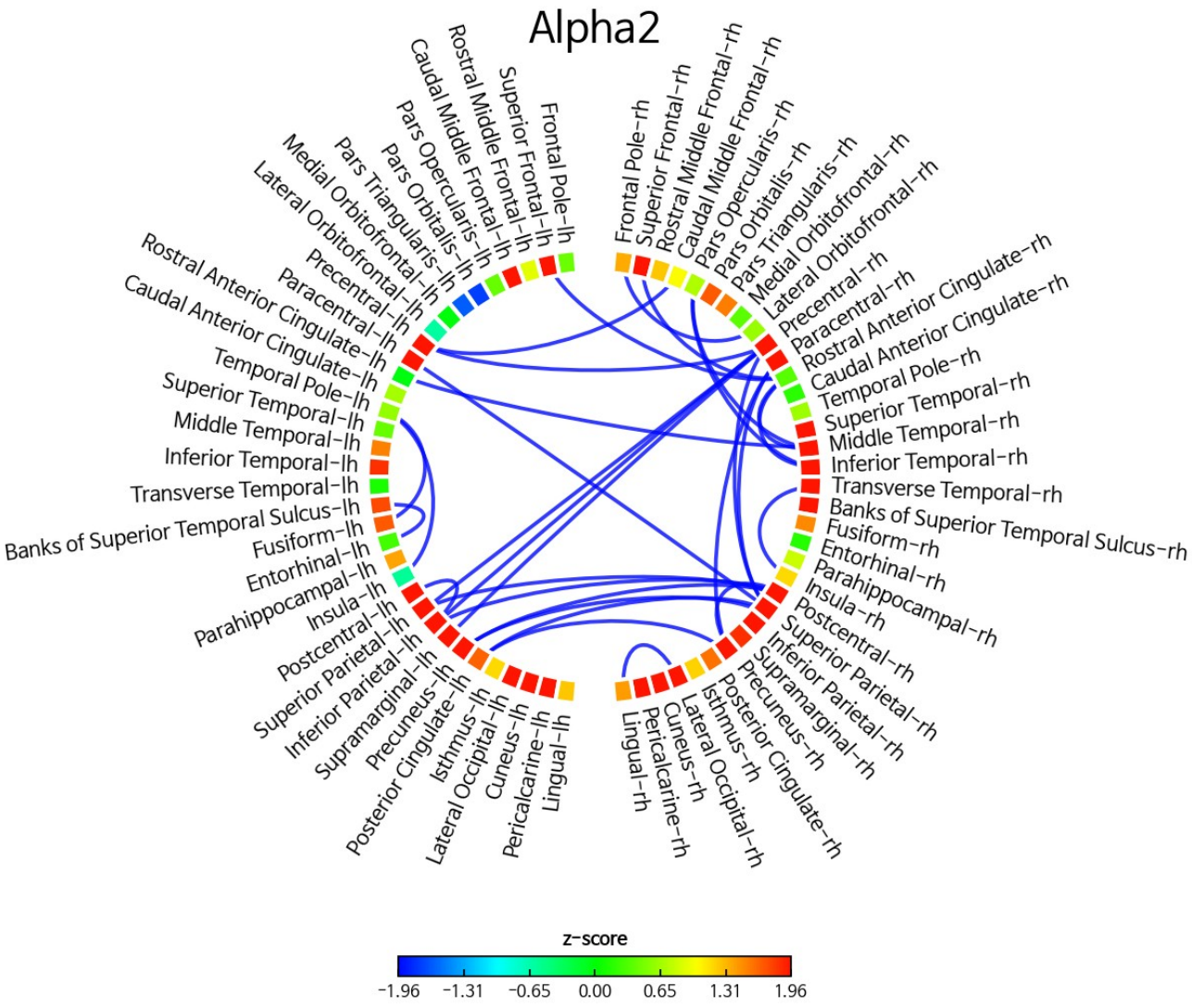
7-1-4-Alpha2(Absolute)

hyperconnection hypoconnection



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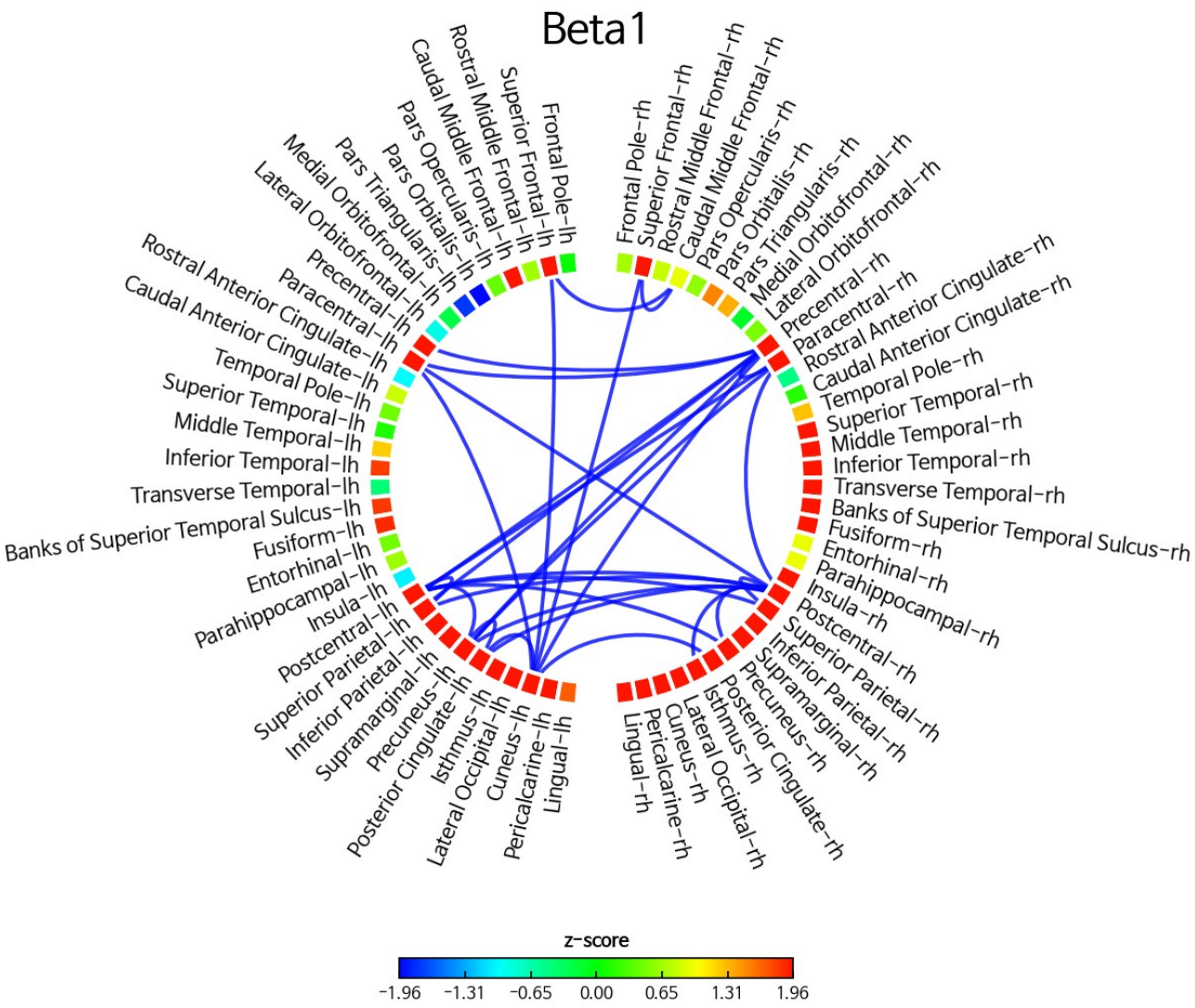
7-1-5-Beta1(Absolute)

hyperconnection hypoconnection



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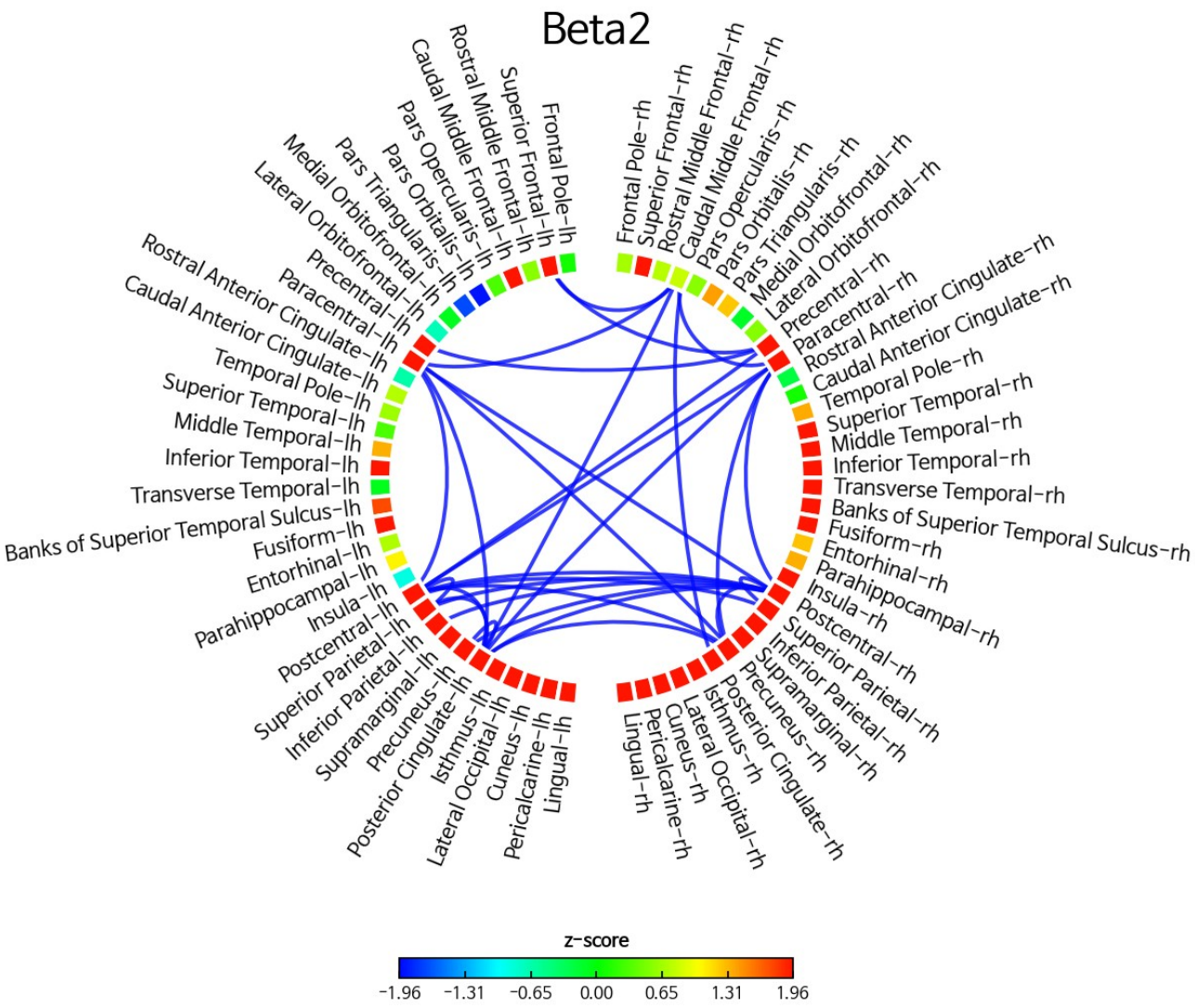
7-1-6-Beta2(Absolute)

hyperconnection hypoconnection



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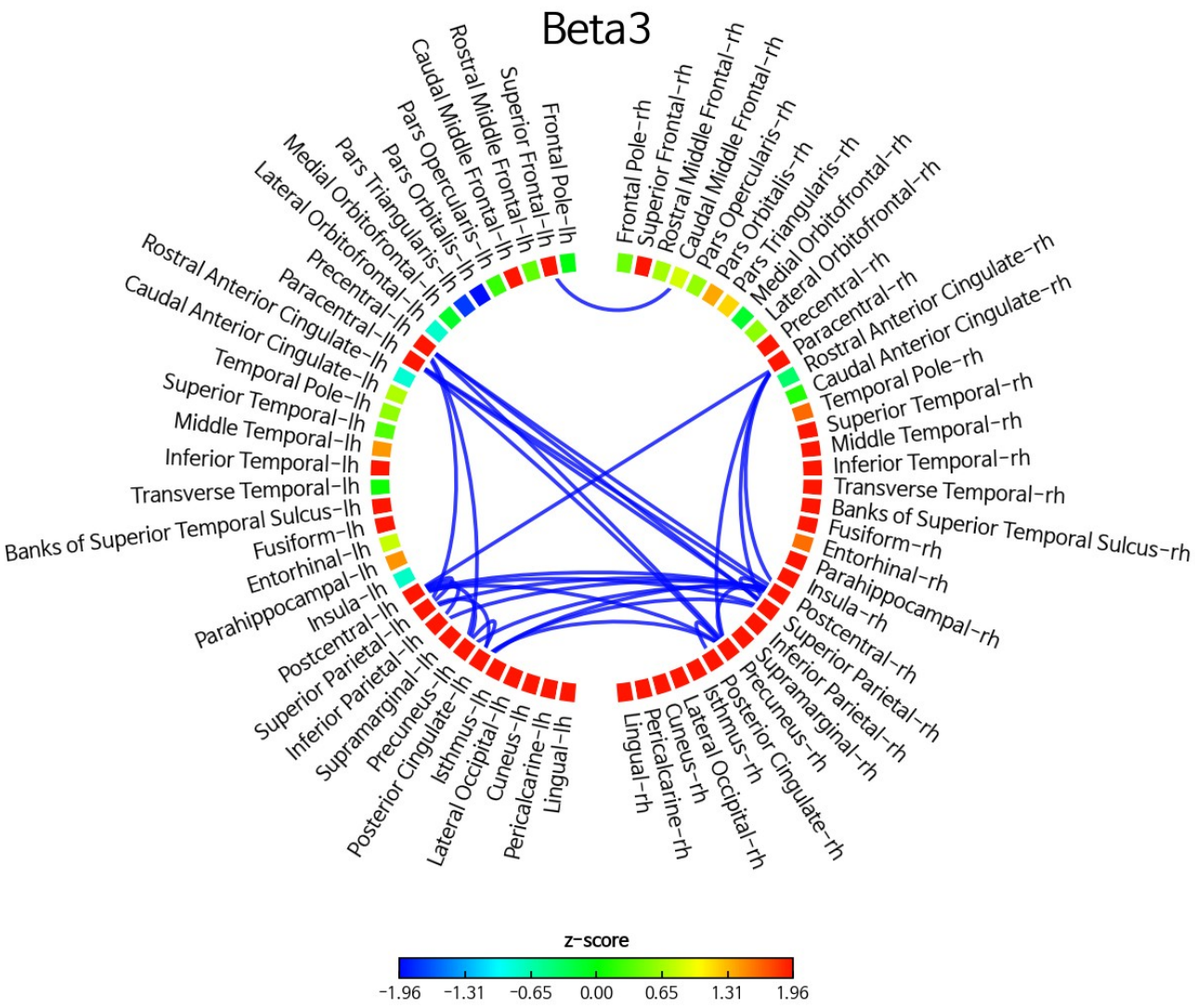
7-1-7-Beta3(Absolute)

hyperconnection hypoconnection



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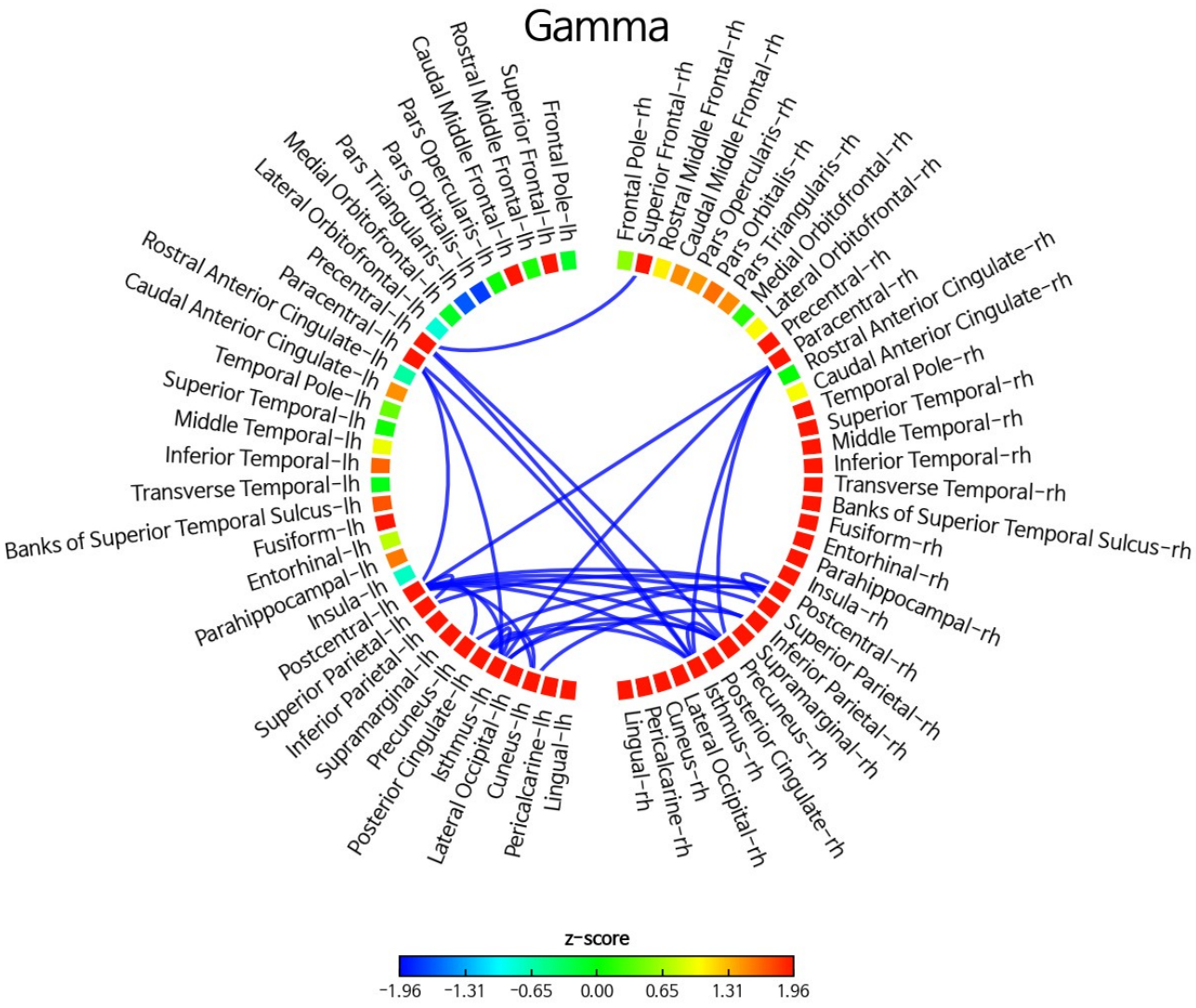
7-1-8-Gamma(Absolute)

hyperconnection hypoconnection



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7-2-All

Source power derives from the EEG channel data using sLORETA (T218) .
The line represents the connectivity (iCoh) of ROIs. Imaginary coherence (iCoh) means the spectral coherence that ignores volume conduction (only using imaginary part).

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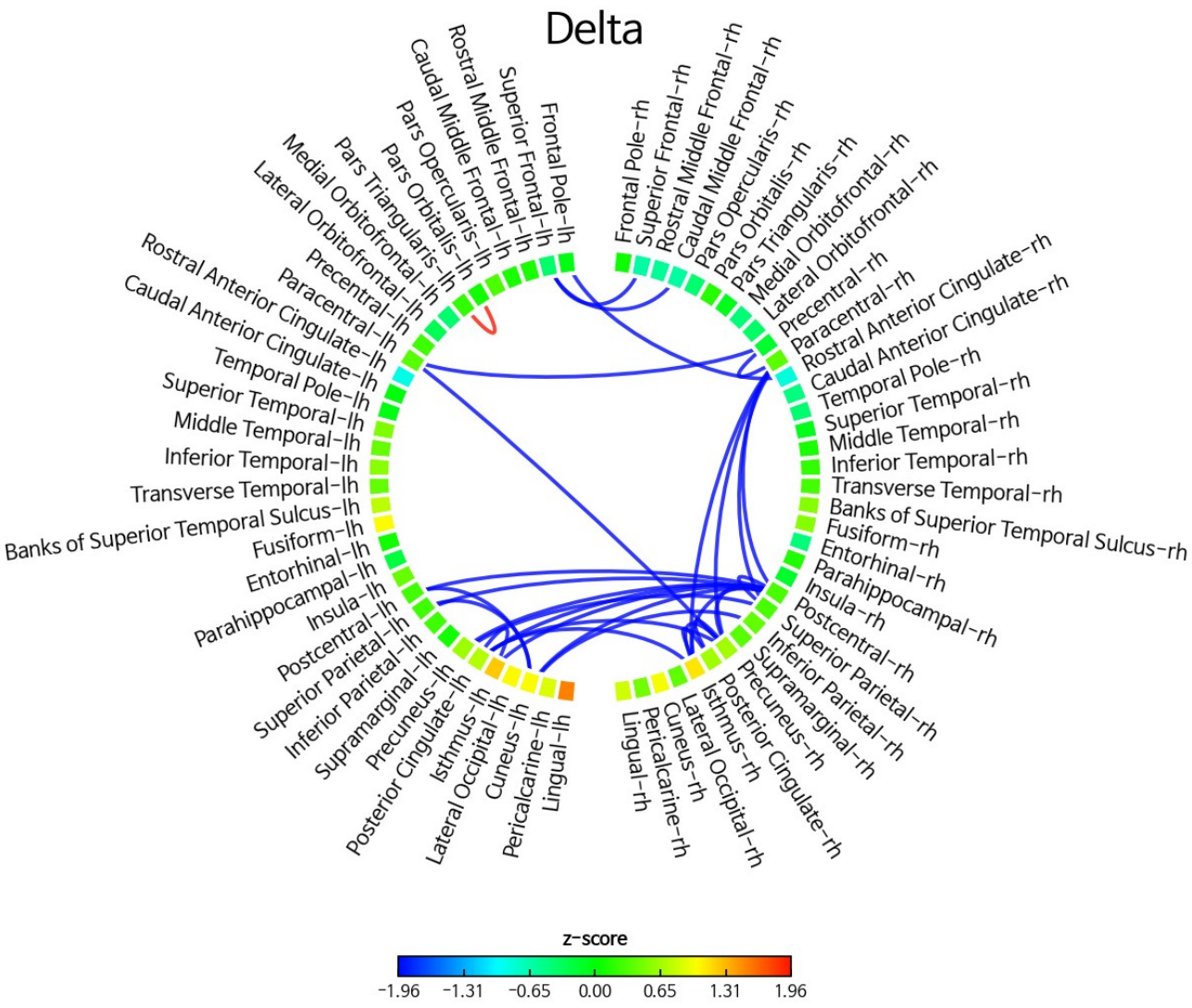
7-2-1-Delta(Relative)

hyperconnection hypoconnection



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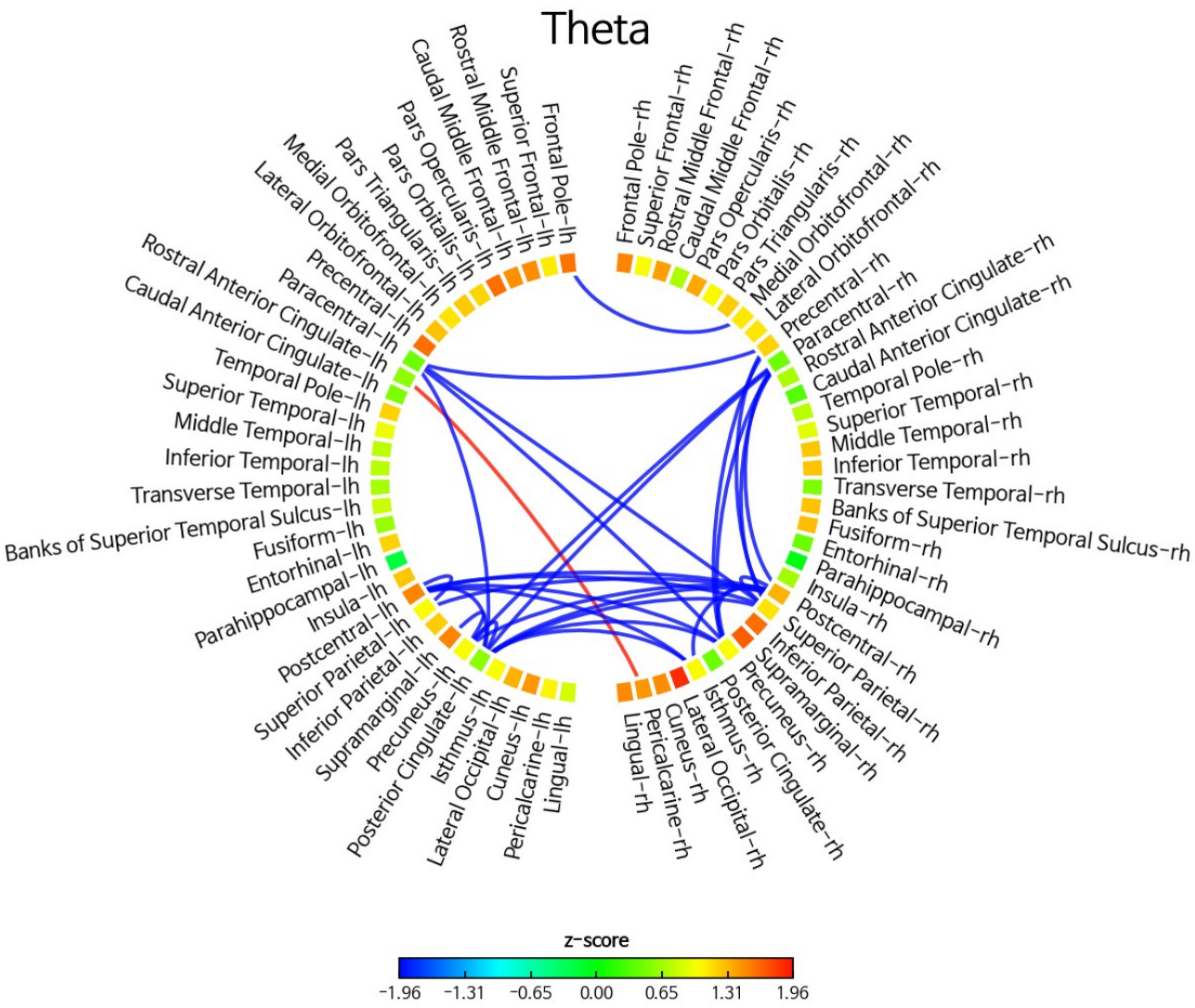
7-2-2-Theta(Relative)

hyperconnection hypoconnection



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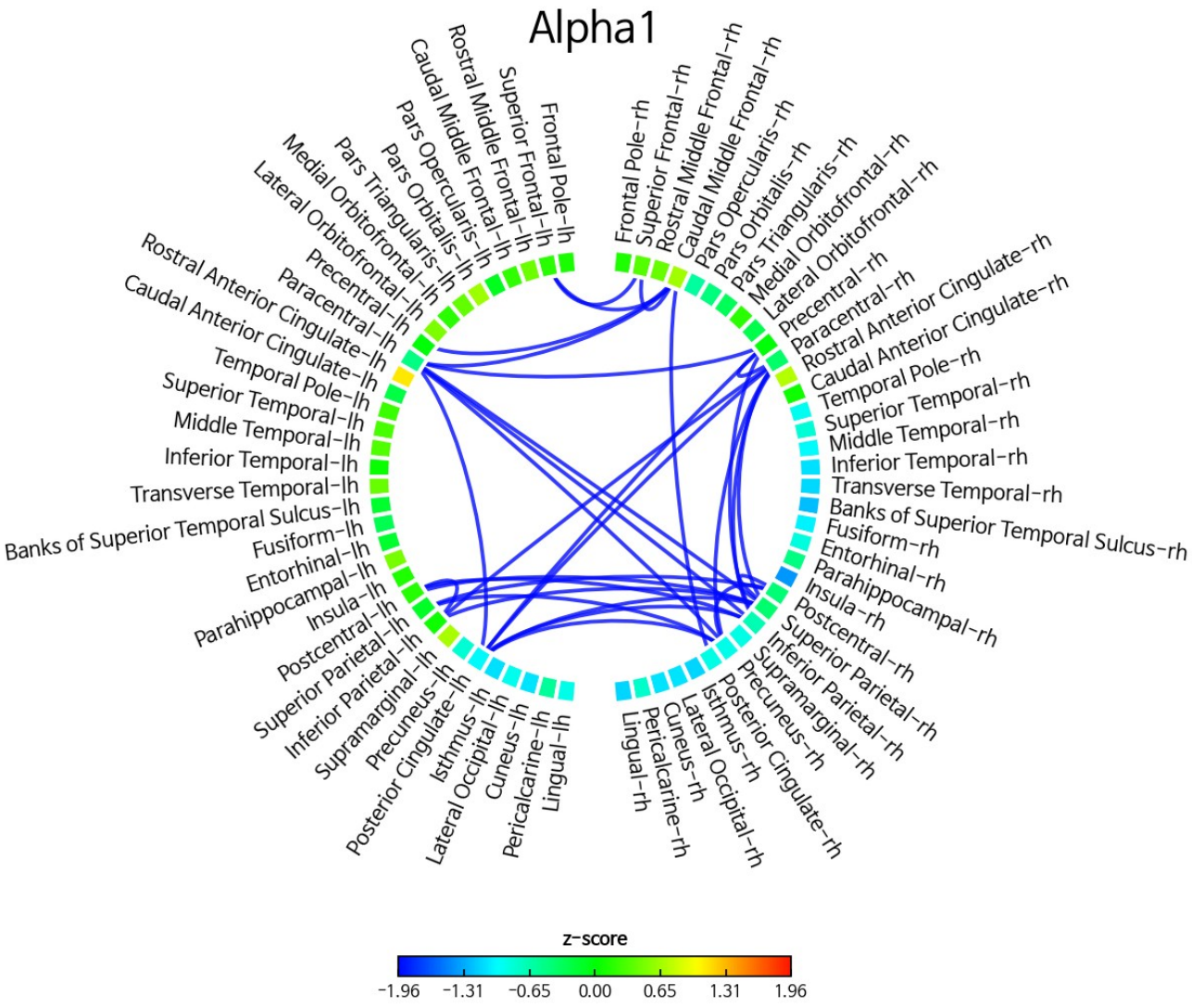
7-2-3-Alpha1(Relative)

hyperconnection hypoconnection



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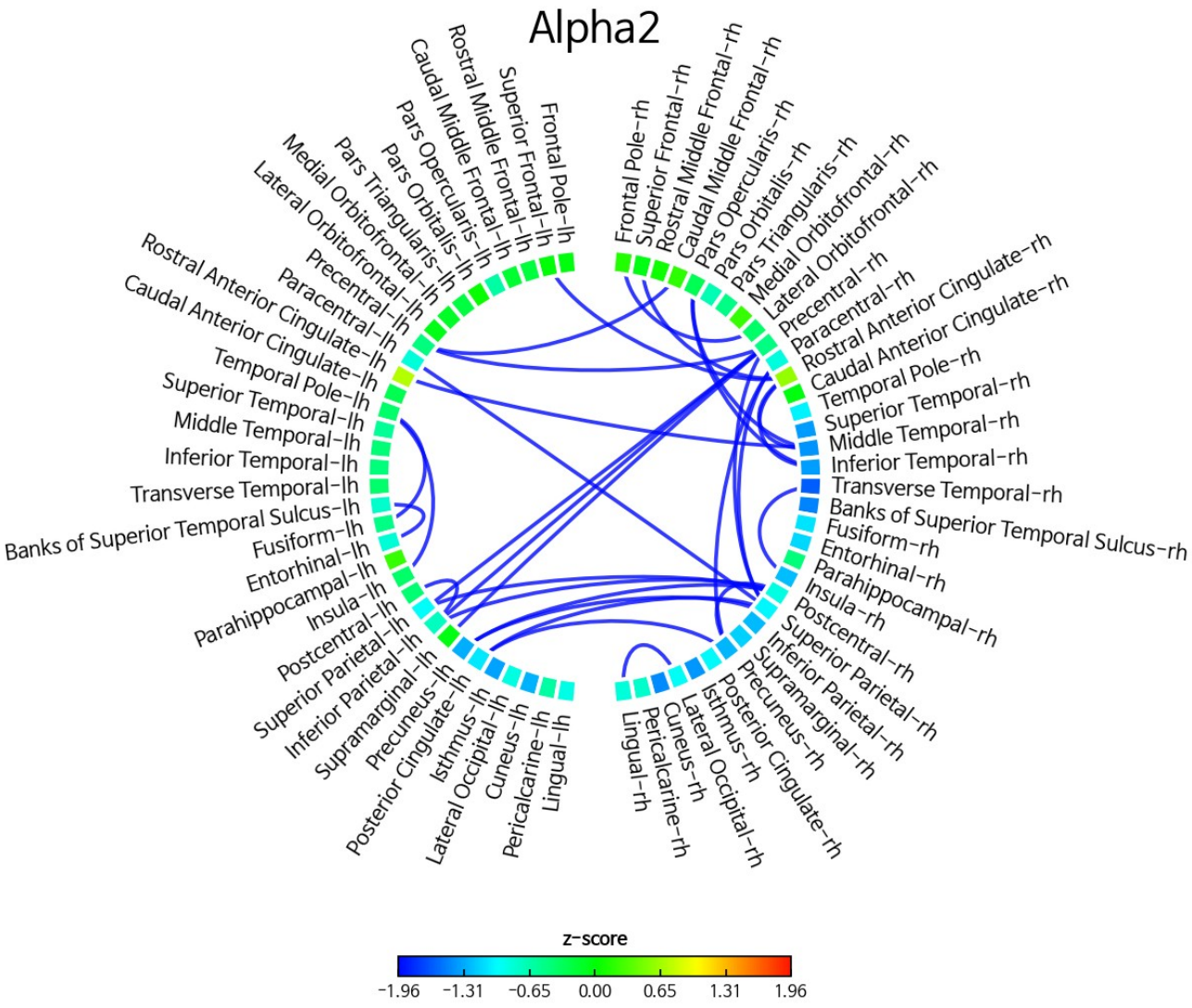
7-2-4-Alpha2(Relative)

hyperconnection hypoconnection



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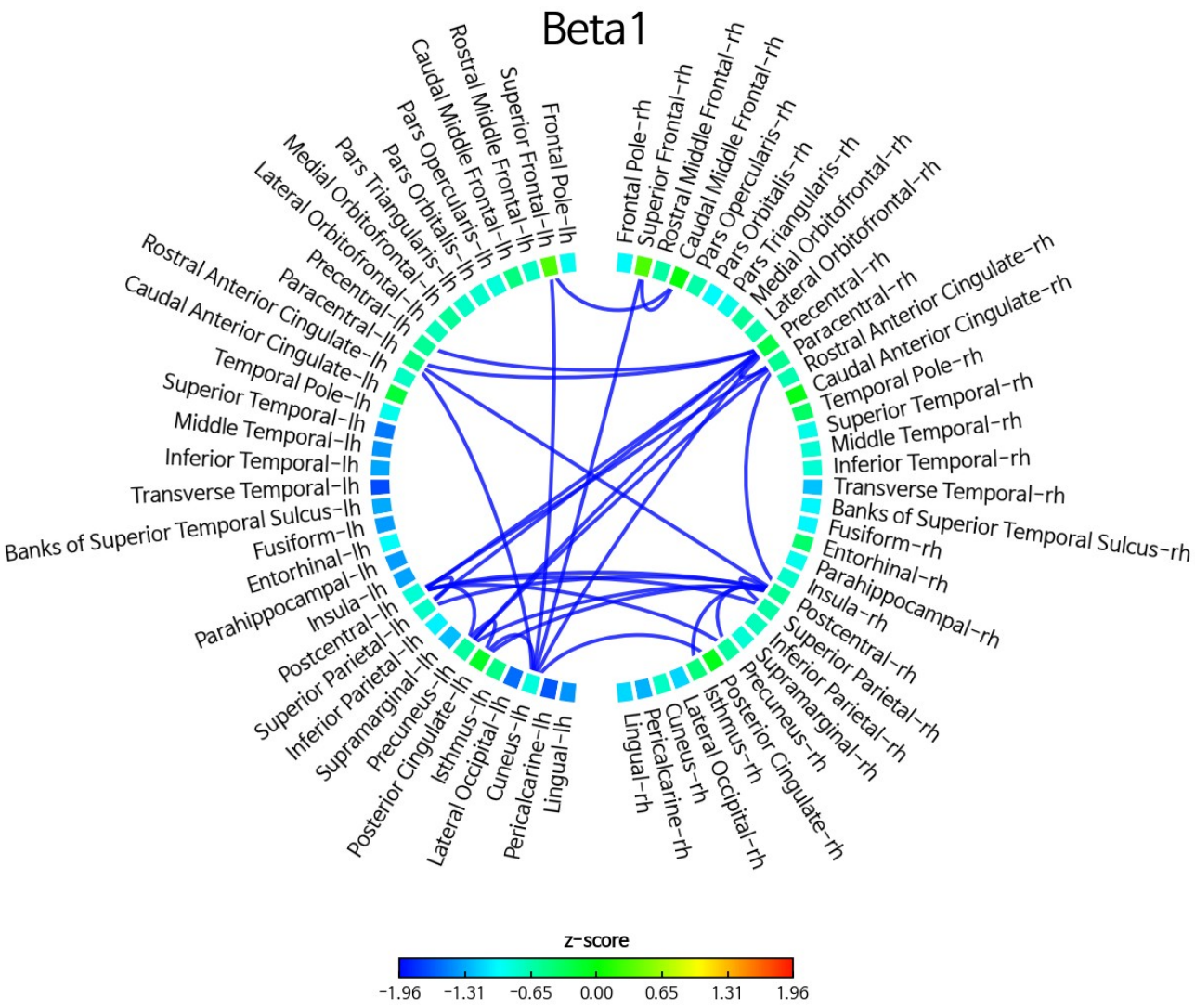
7-2-5-Beta1(Relative)

hyperconnection hypoconnection



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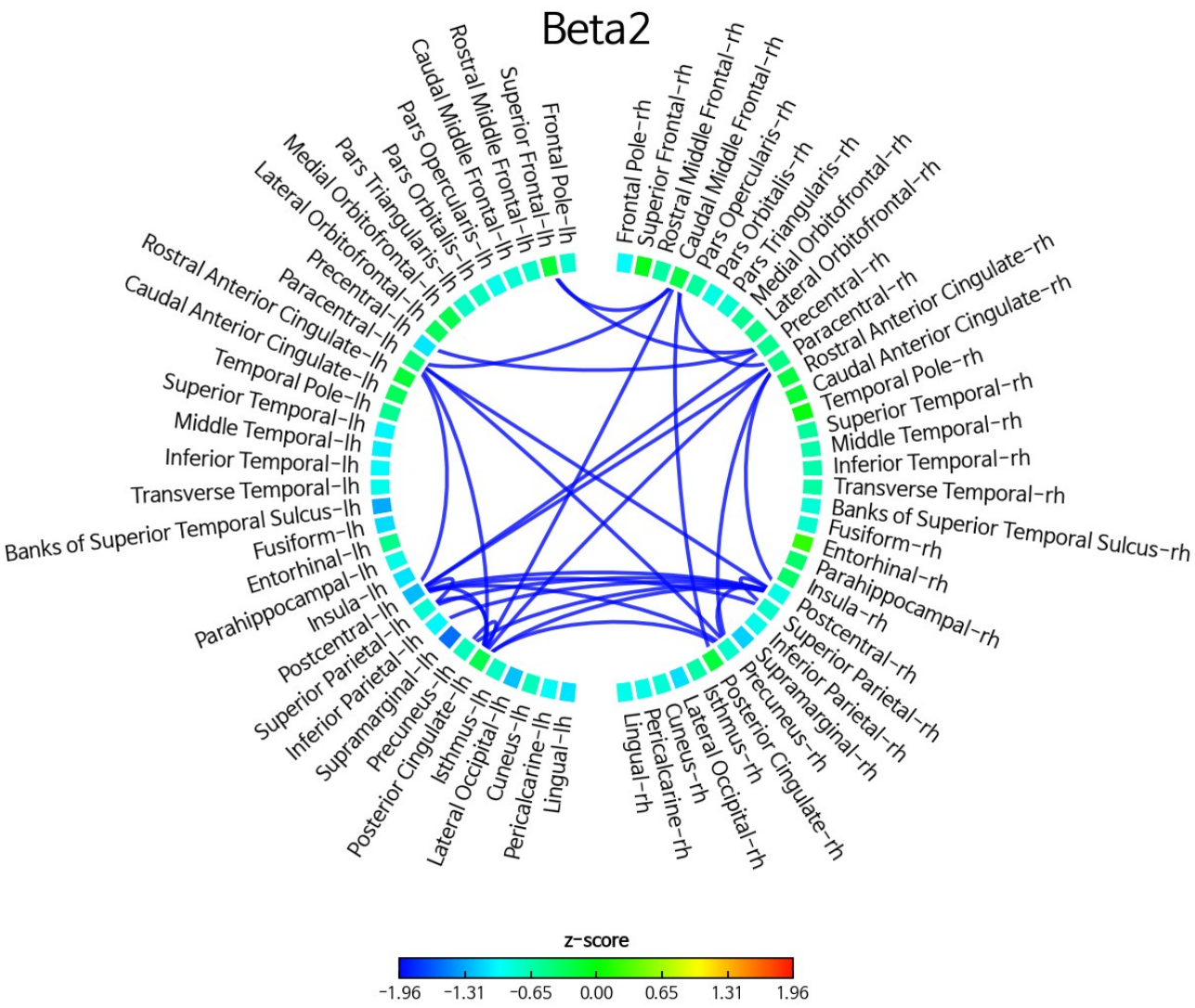
7-2-6-Beta2(Relative)

hyperconnection hypoconnection



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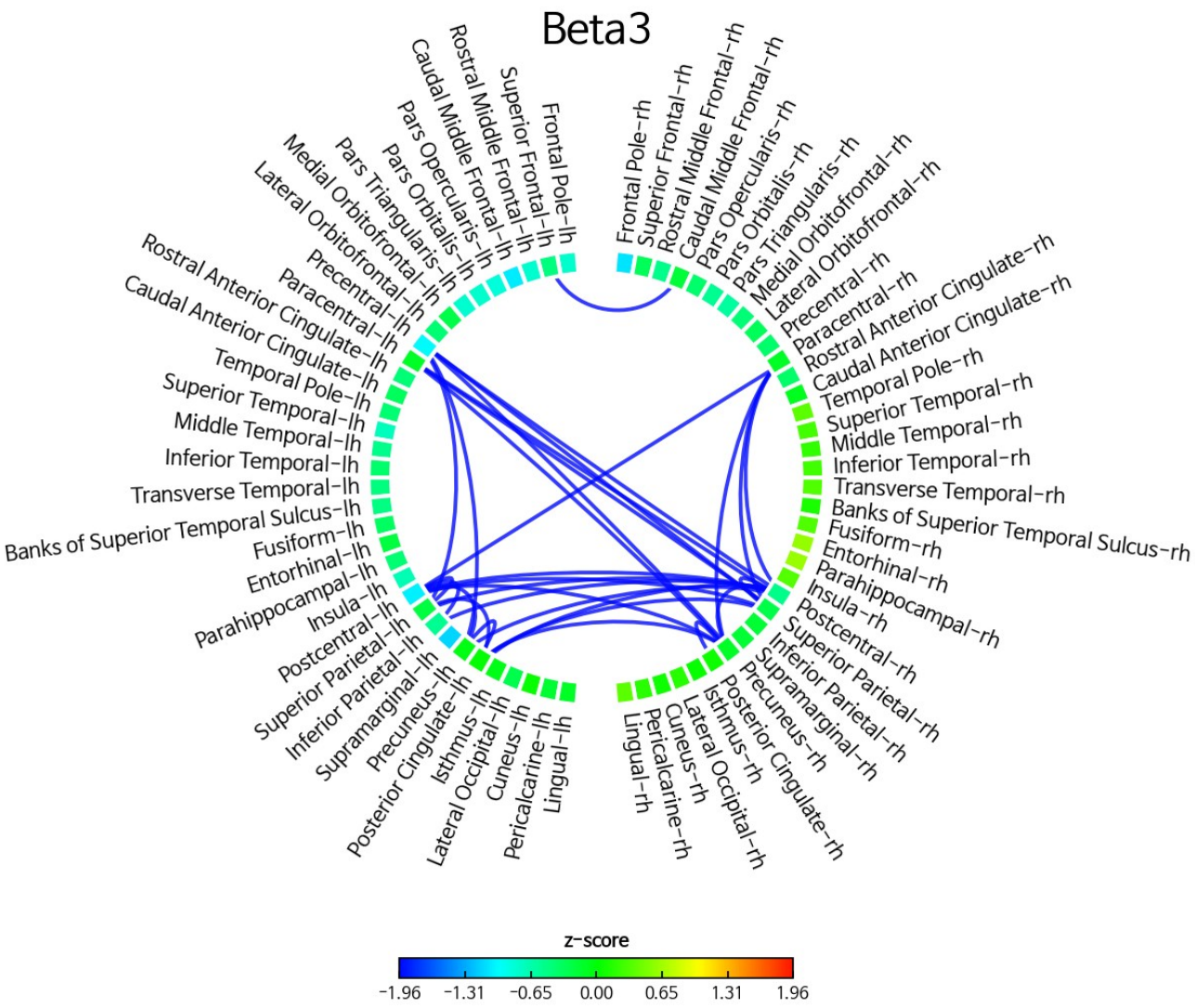
7-2-7-Beta3(Relative)

hyperconnection hypoconnection



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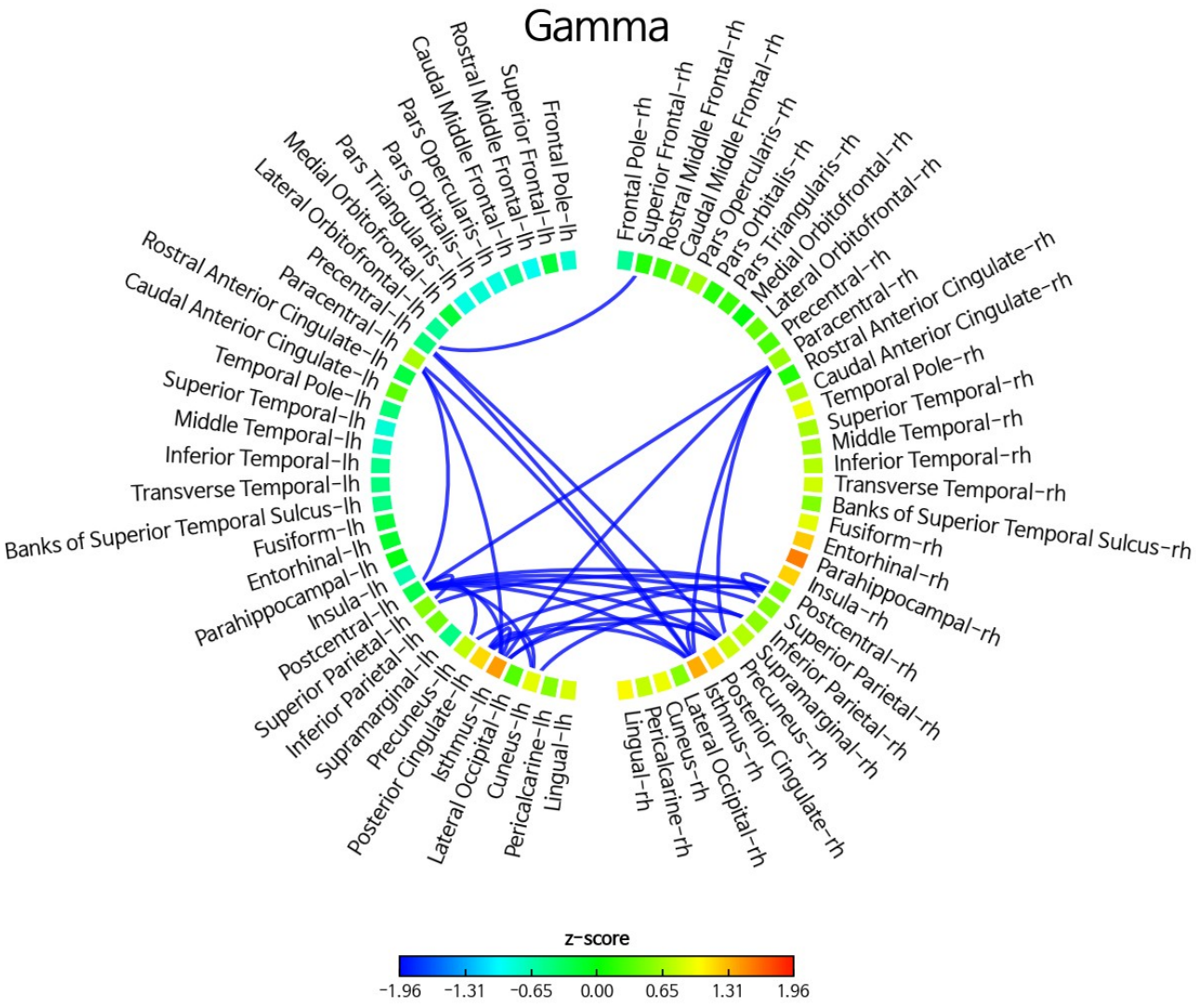
7-2-8-Gamma(Relative)

hyperconnection hypoconnection



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7-3-DMN

(1)Default mode network
The default mode network (DMN) is a network of brain regions that are relatively active in awake subjects in a resting state. It tends to deactivate during task performance and reactivate during passive rest.

Clinical significance
Changes in functional connectivity of the DMN implicate several neurological and neuropsychiatric disorders such as Alzheimer`s disease, Parkinson`s disease (PD), epilepsy (especially temporal lobe epilepsy), ADHD, and mood disorders. More information on the clinical significance of the DMN can be found in the appendix.

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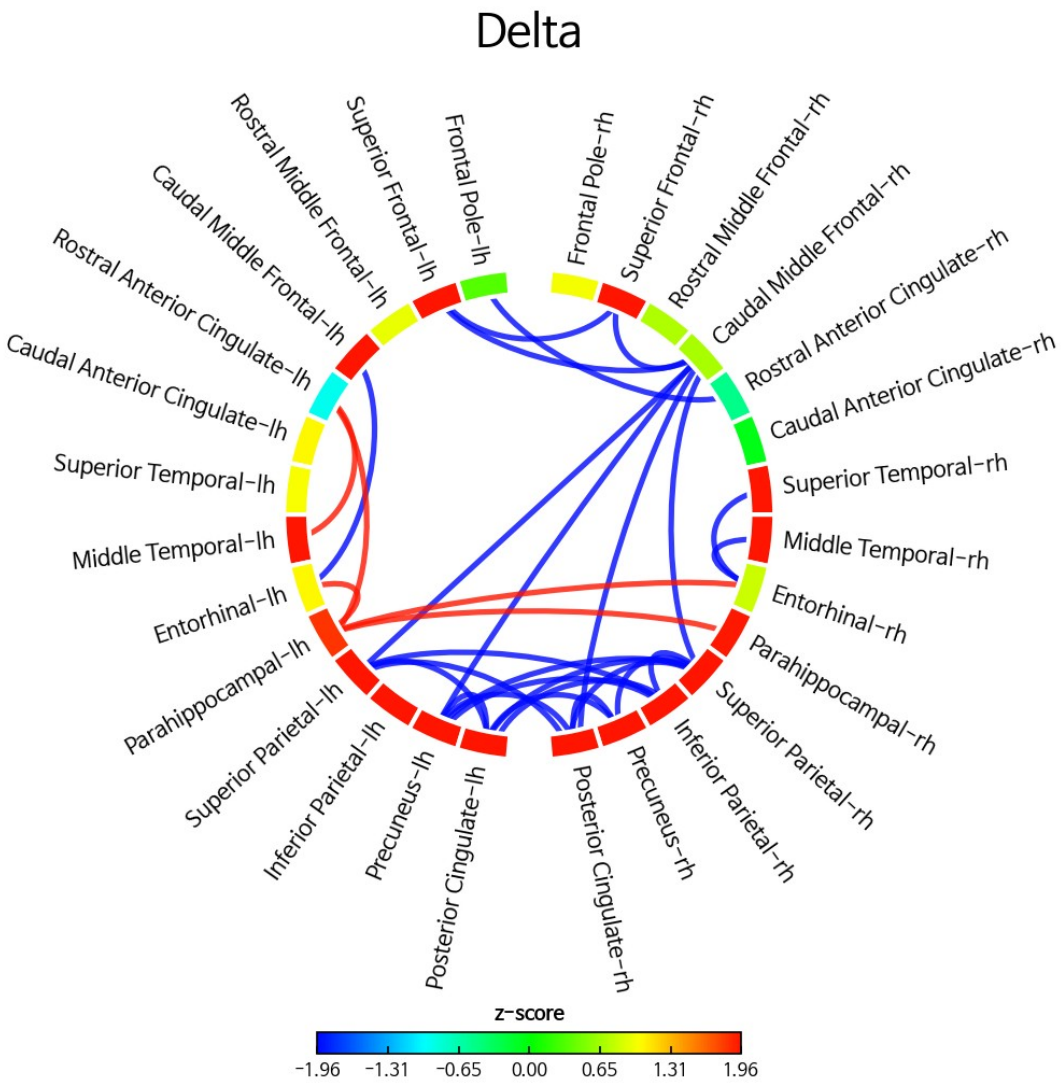
7-3-1-Delta(Absolute)

hyperconnection hypoconnection



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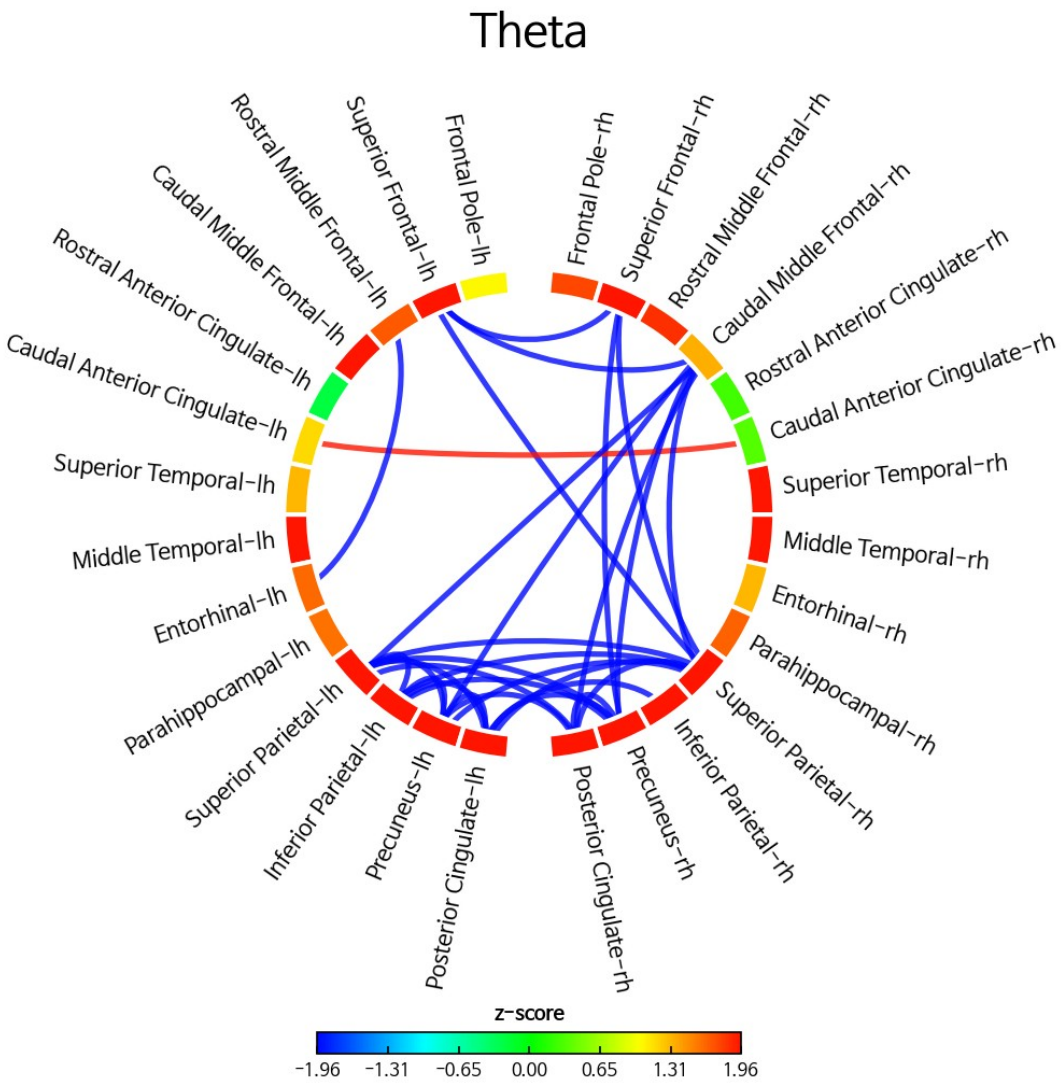
7-3-2-Theta(Absolute)

hyperconnection hypoconnection



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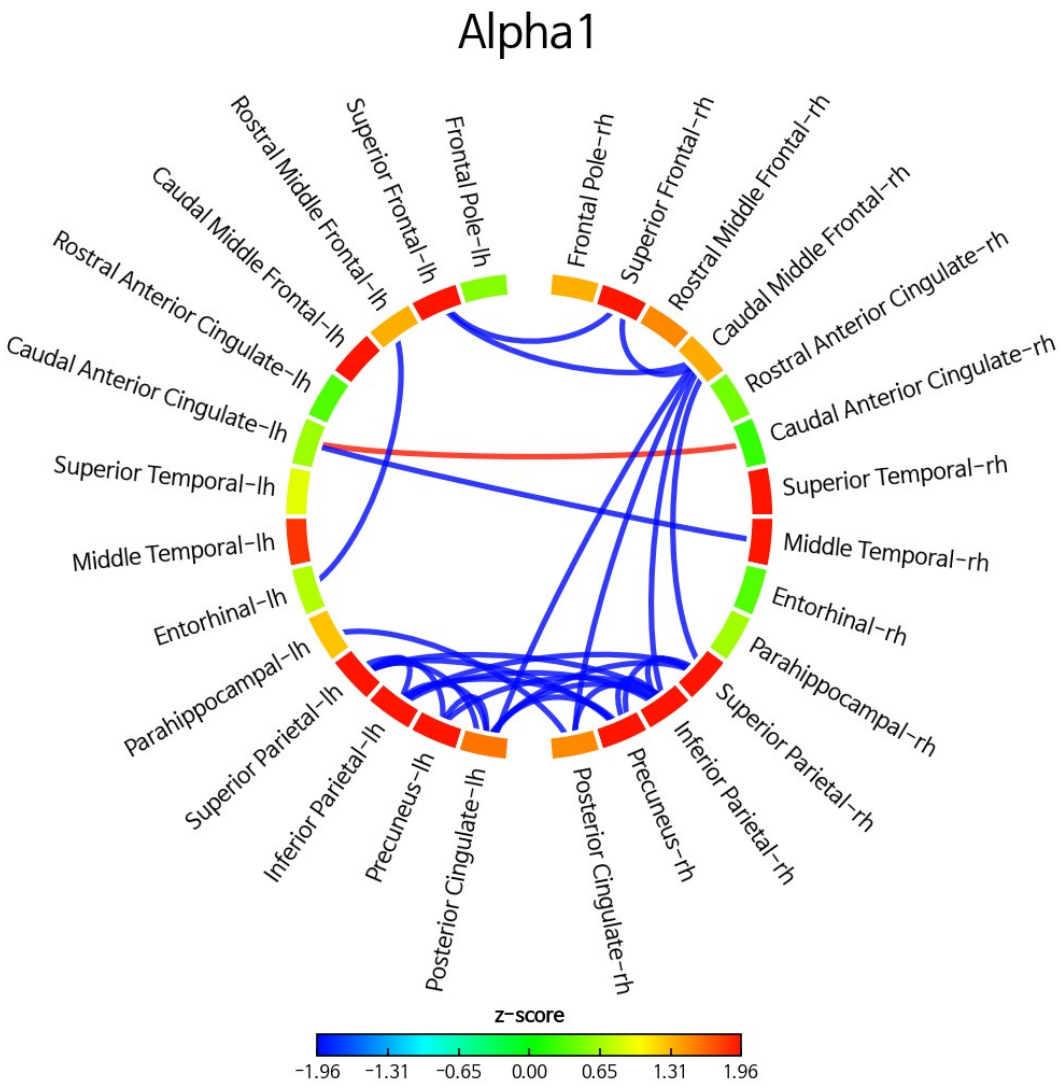
7-3-3-Alpha1(Absolute)

hyperconnection hypoconnection



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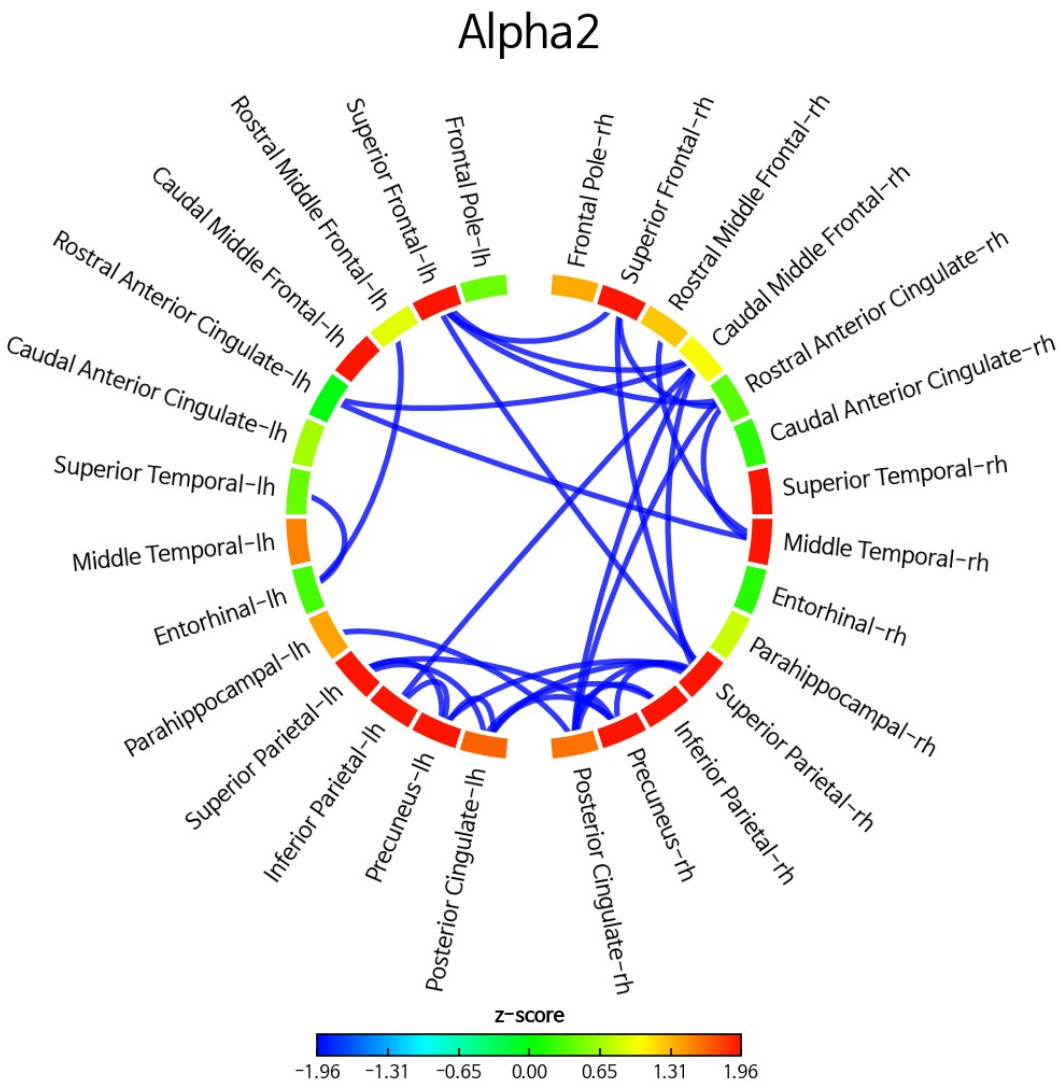
7-3-4-Alpha2(Absolute)

hyperconnection hypoconnection



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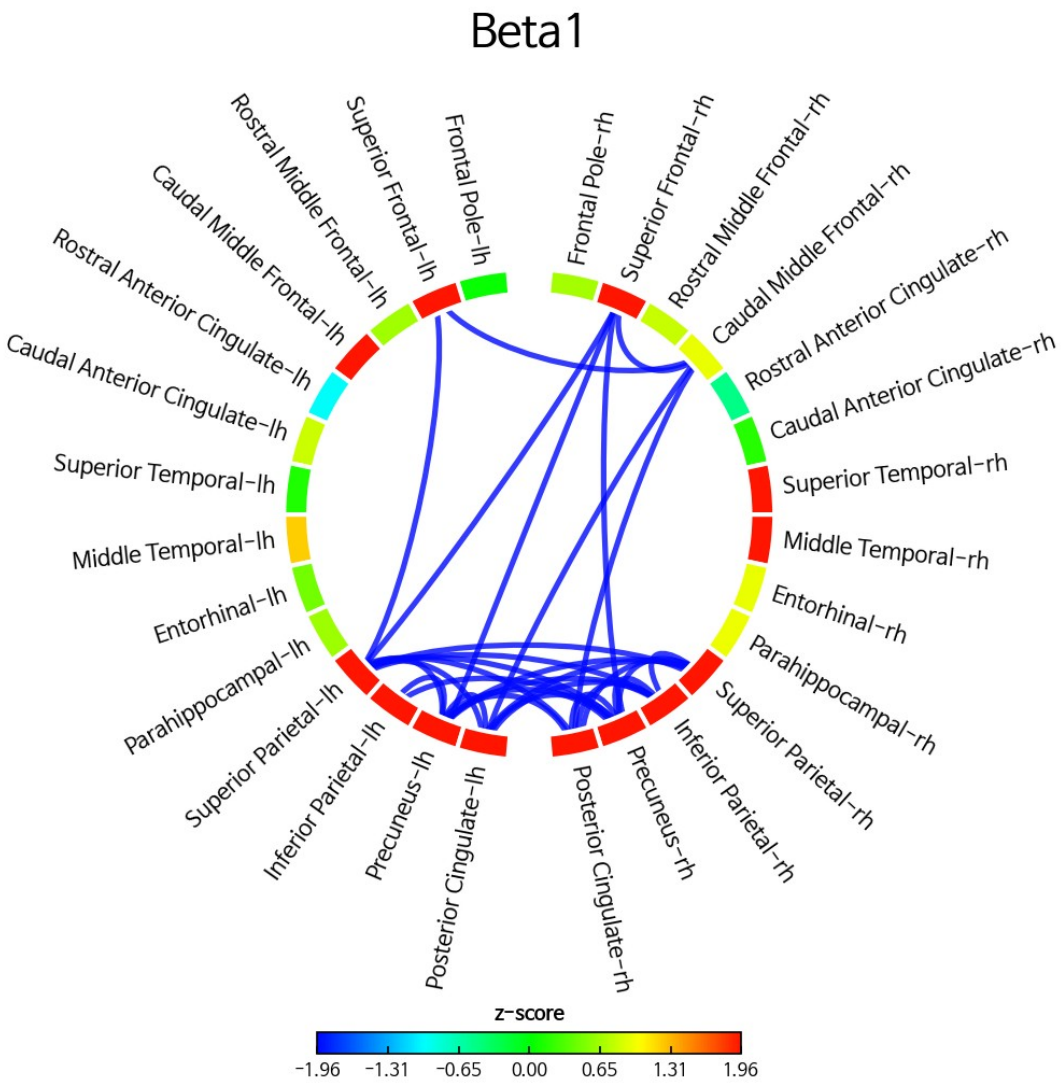
7-3-5-Beta1(Absolute)

hyperconnection hypoconnection



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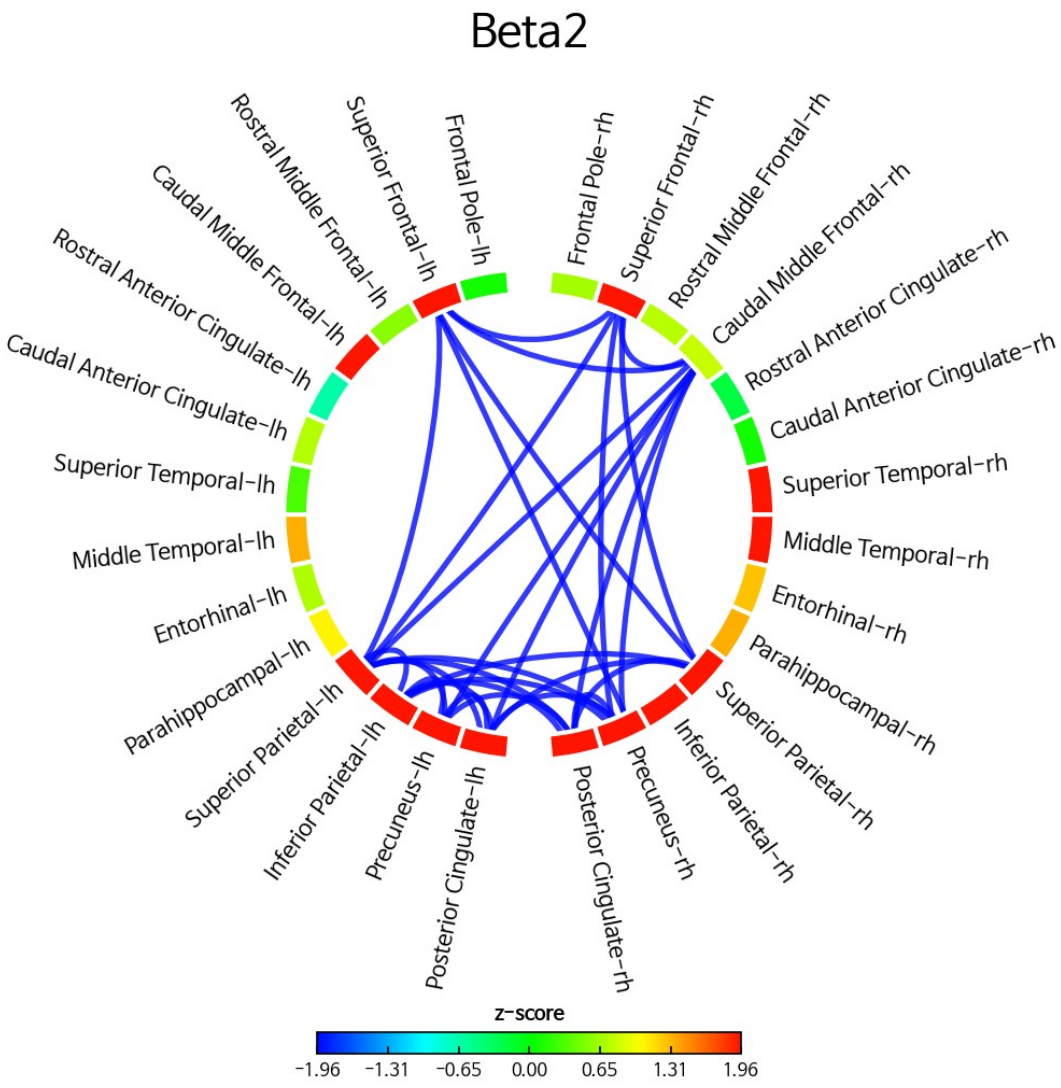
7-3-6-Beta2(Absolute)

hyperconnection hypoconnection



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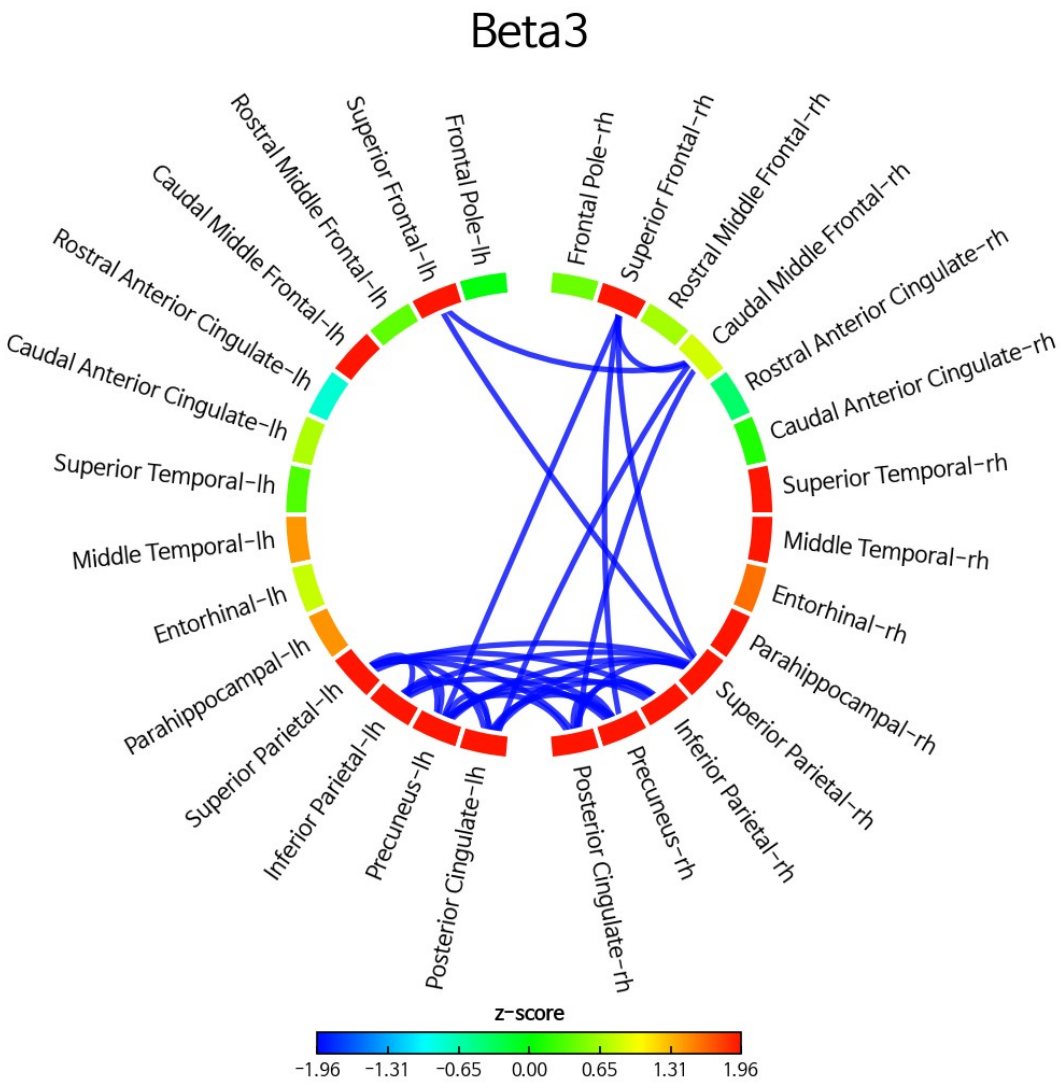
7-3-7-Beta3(Absolute)

hyperconnection hypoconnection



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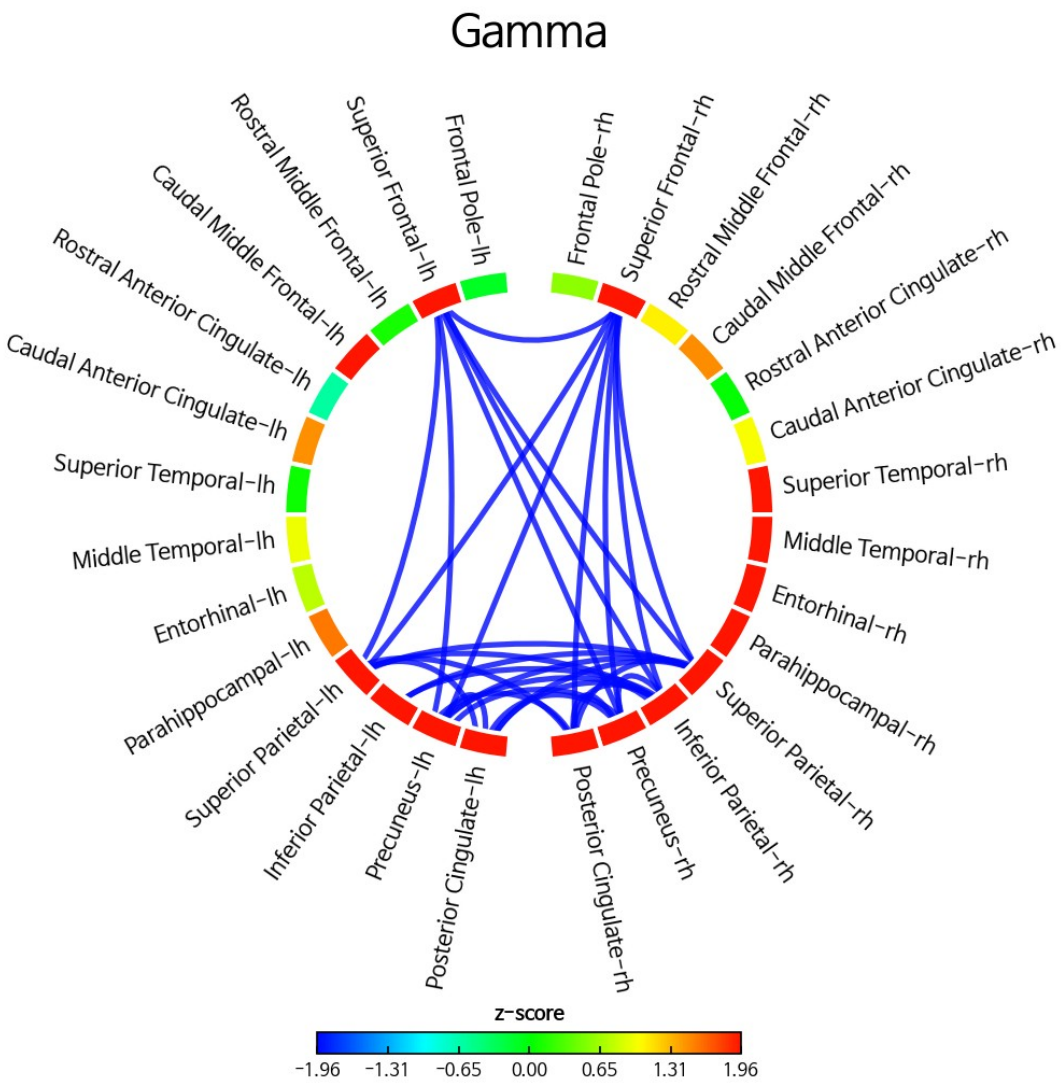
7-3-8-Gamma(Absolute)

hyperconnection hypoconnection



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7-4-DMN

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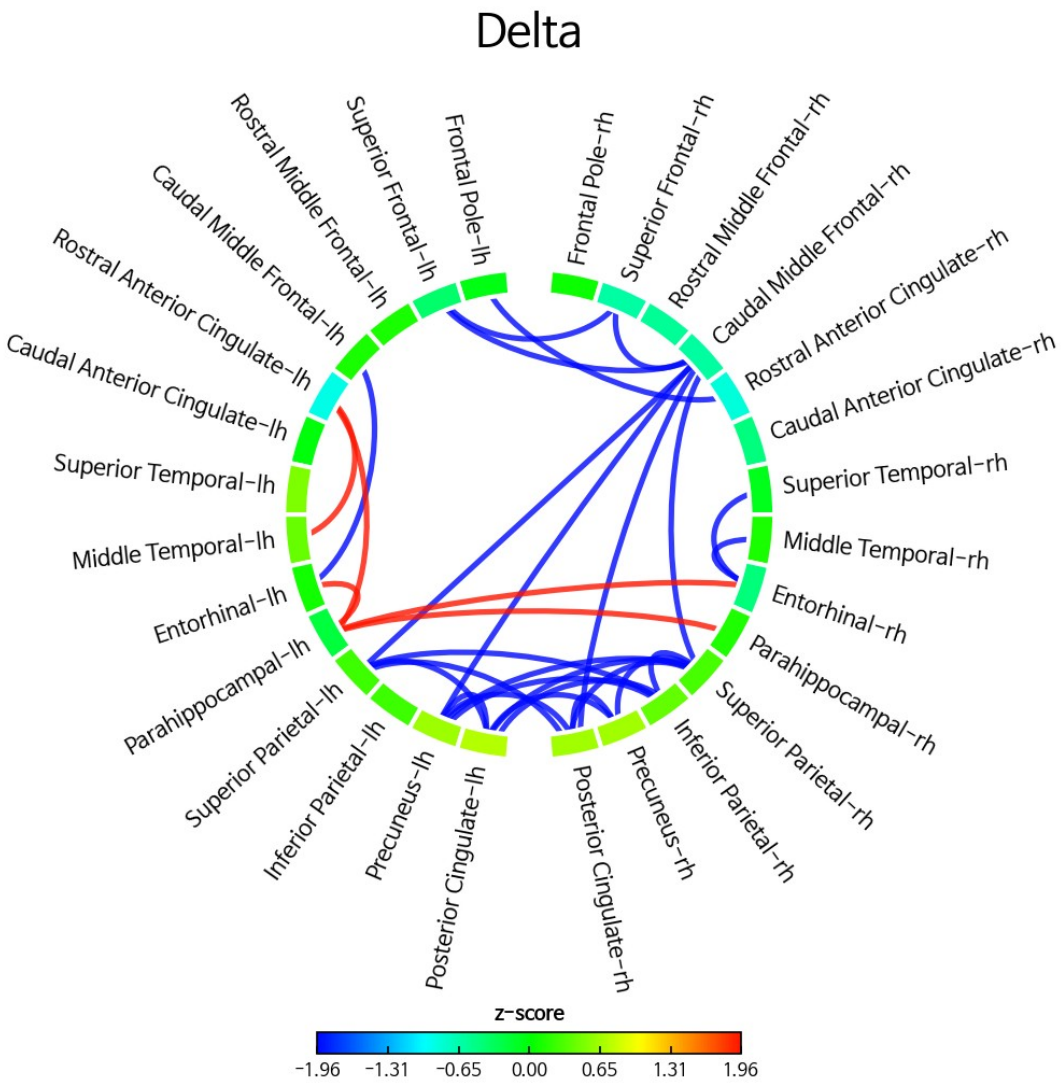
7-4-1-Delta(Relative)

hyperconnection hypoconnection



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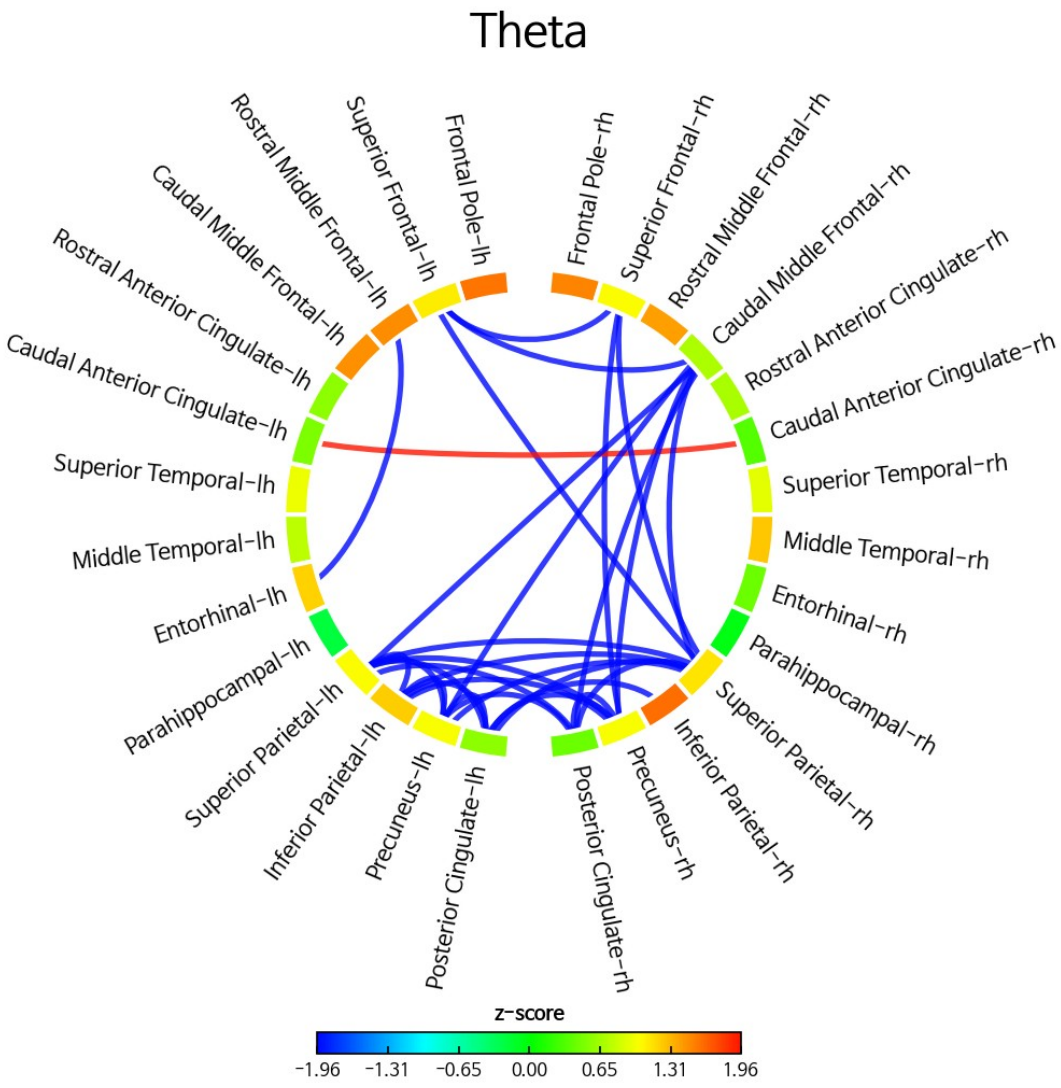
7-4-2-Theta(Relative)

hyperconnection hypoconnection



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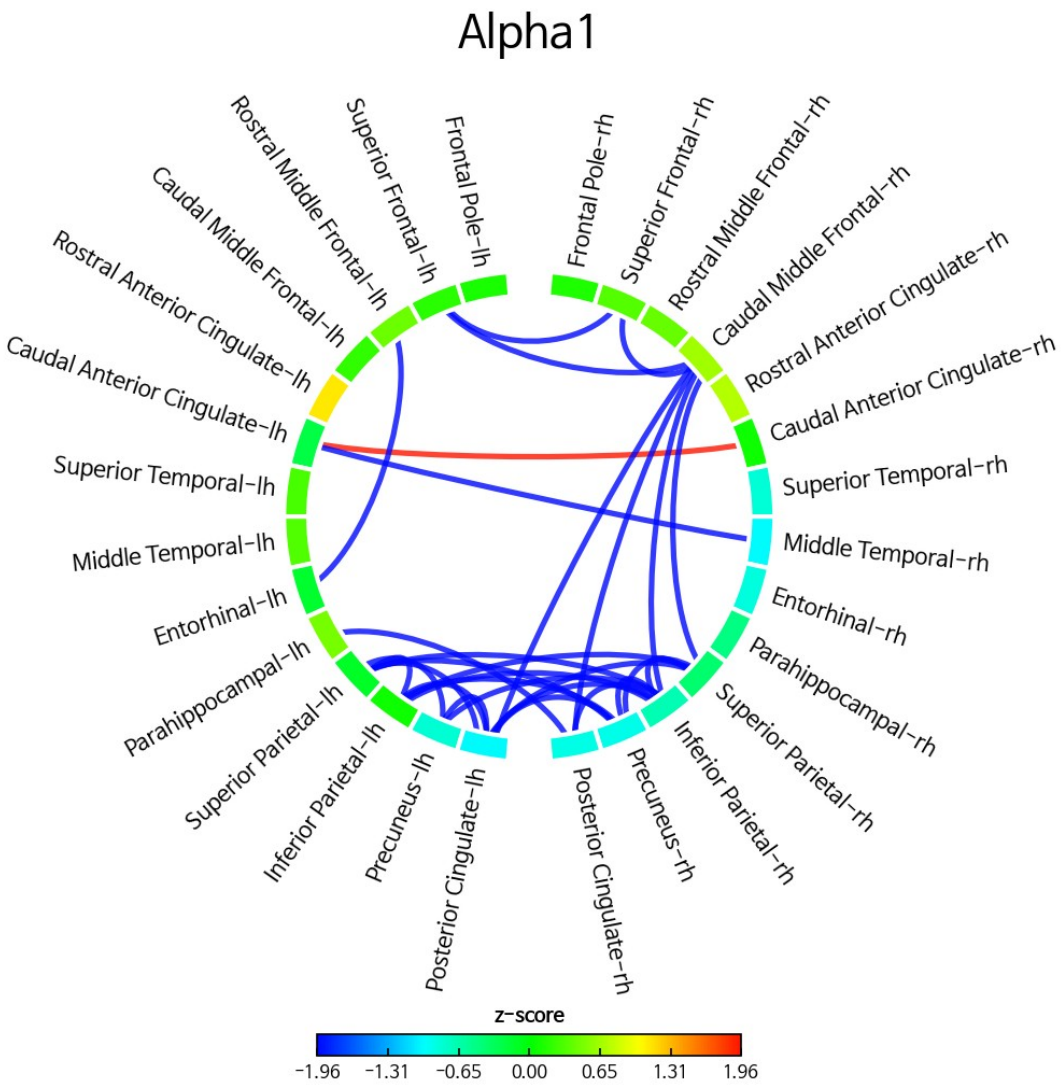
7-4-3-Alpha1(Relative)

hyperconnection hypoconnection



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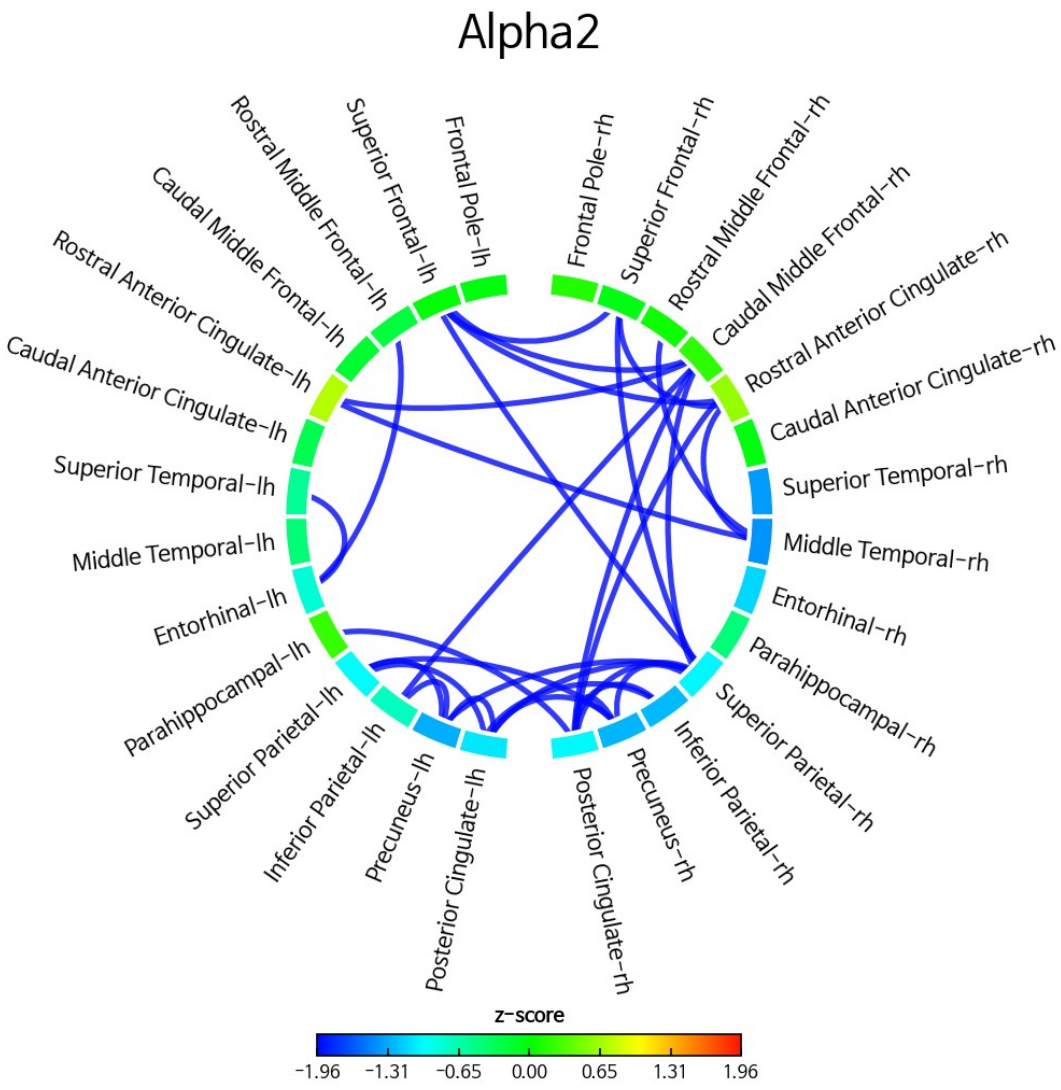
7-4-4-Alpha2(Relative)

hyperconnection hypoconnection



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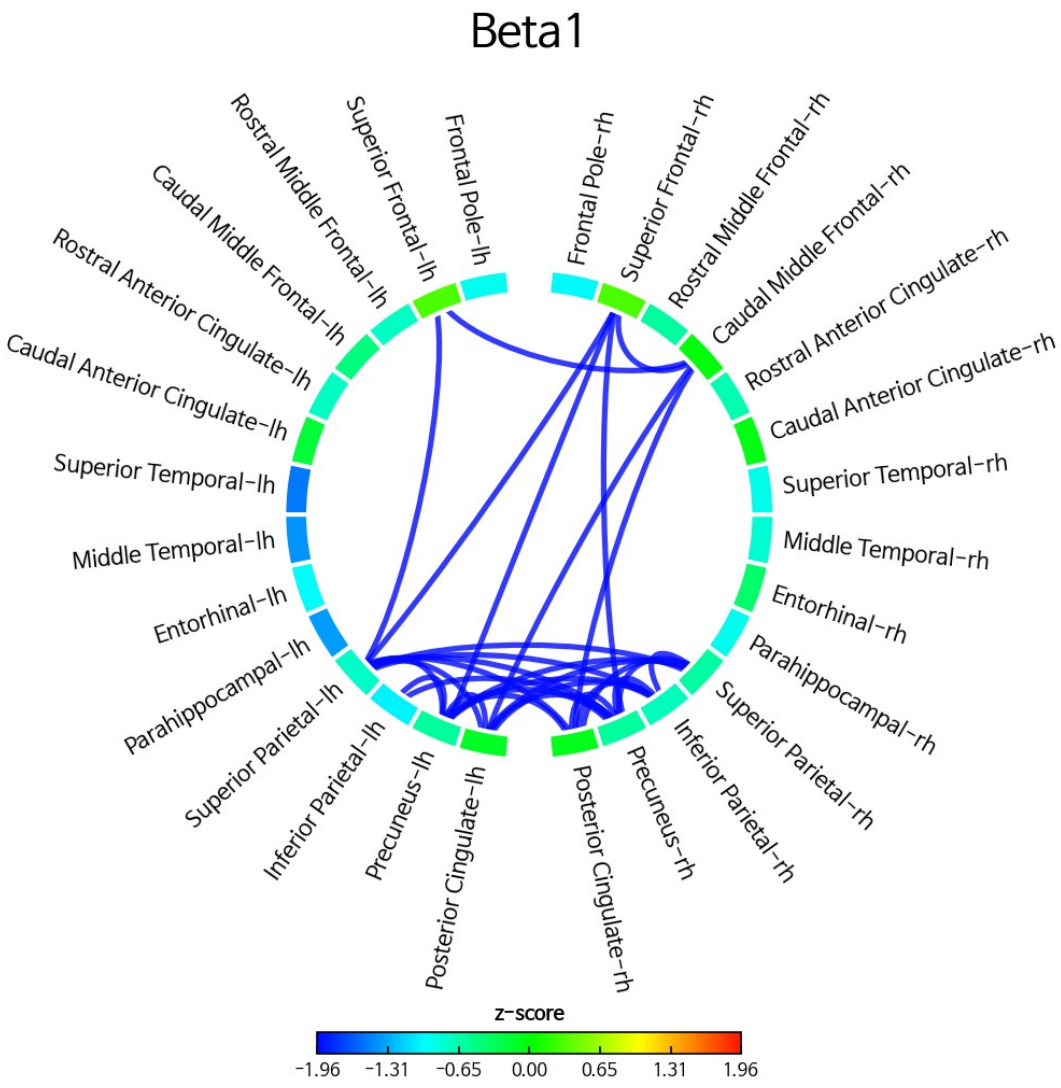
7-4-5-Beta1(Relative)

hyperconnection hypoconnection



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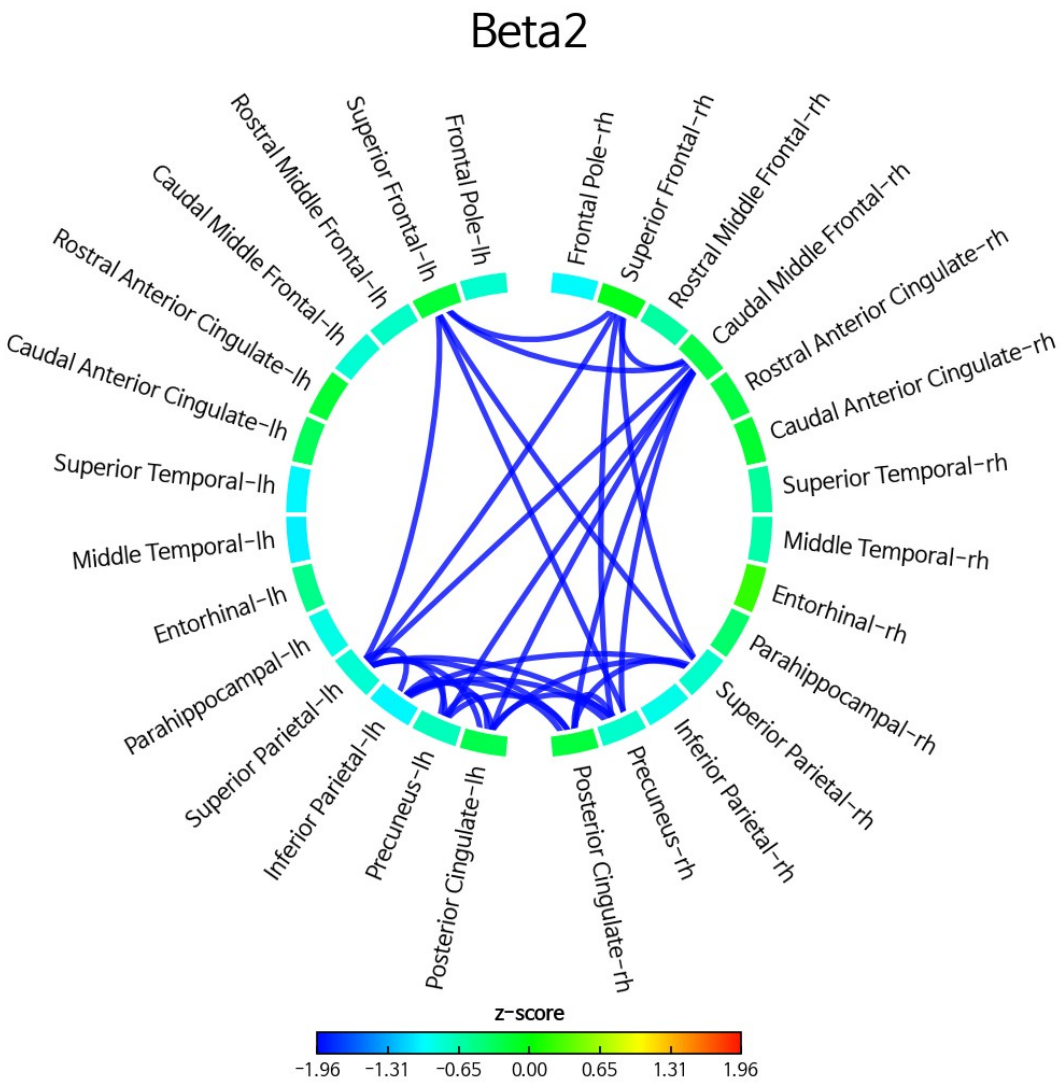
7-4-6-Beta2(Relative)

hyperconnection hypoconnection



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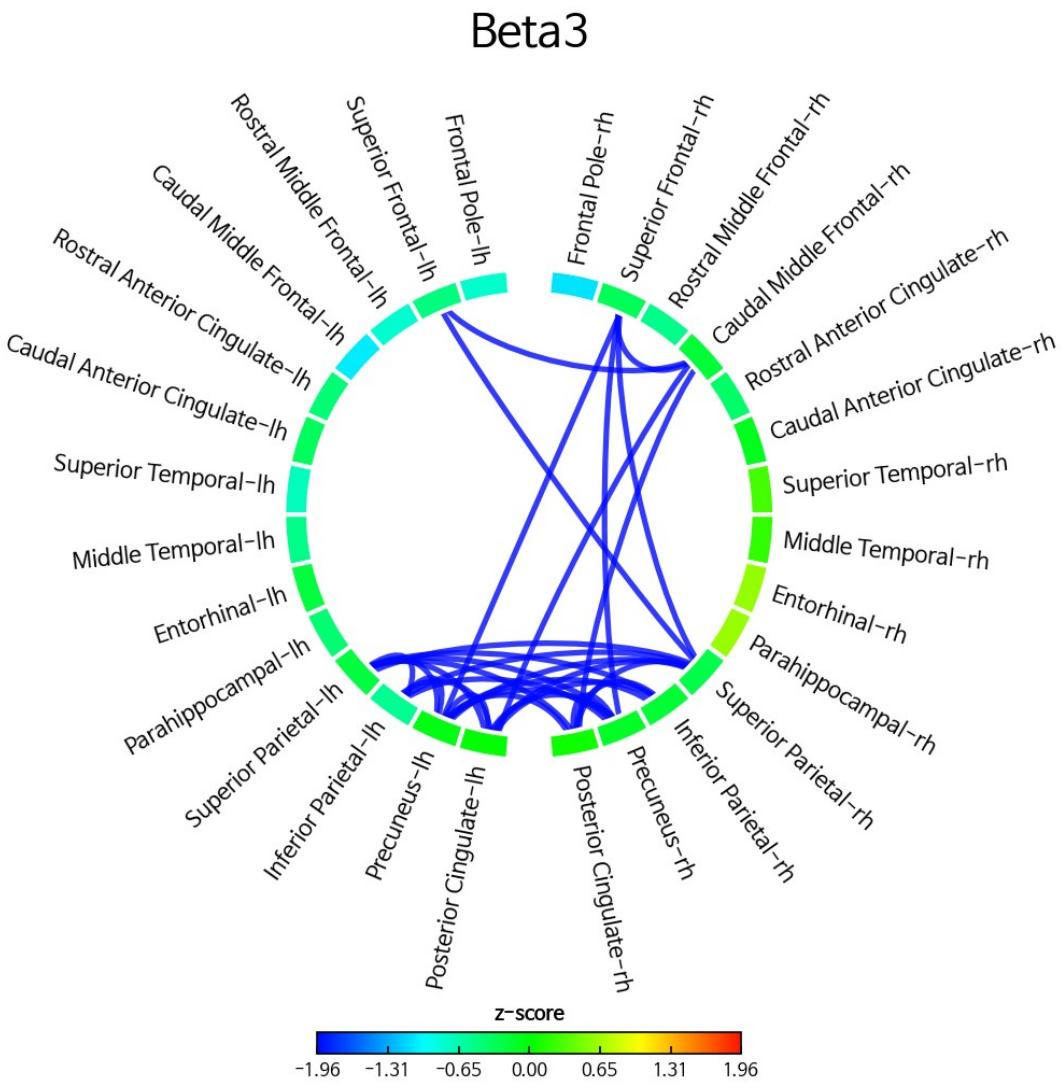
7-4-7-Beta3(Relative)

hyperconnection hypoconnection



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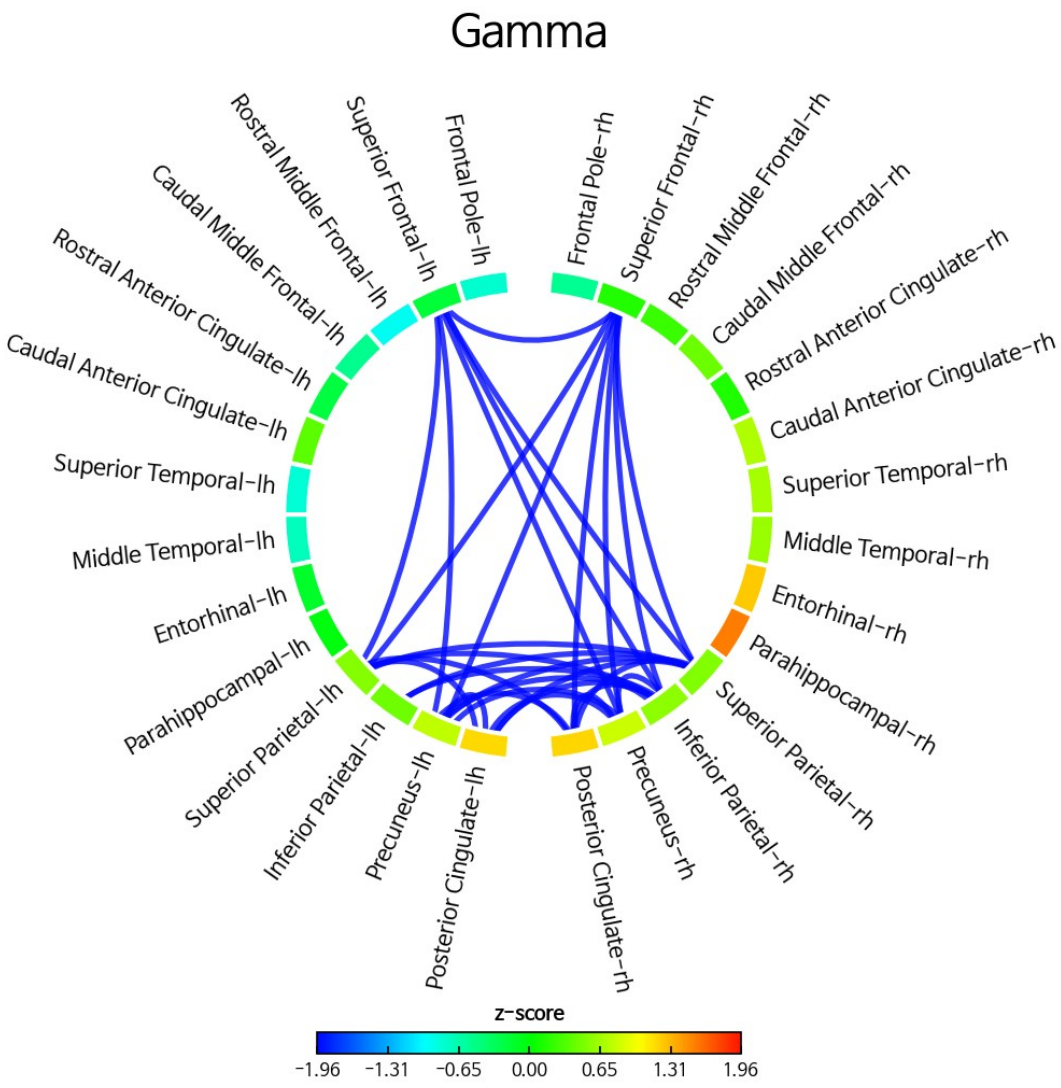
7-4-8-Gamma(Relative)

hyperconnection hypoconnection



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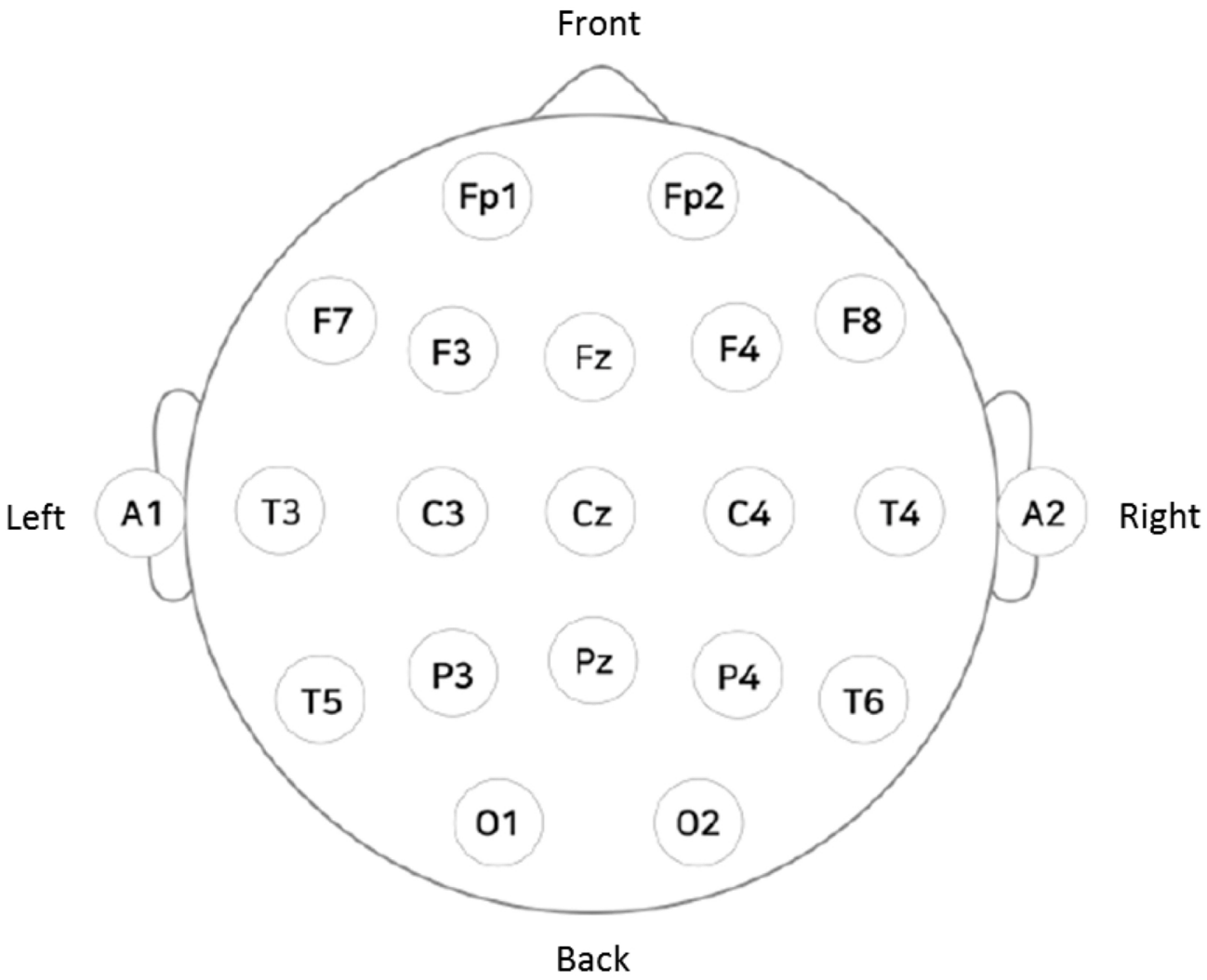
III. Overview

I Electroencephalography (EEG)

- EEG data is a record of the oscillations of electrical brain potential recorded from electrodes on the human scalp.
- The electrodes to record EEG signals are located per the standardized measuring point of the international 10-20 system. In the case of using 19 electrodes (Fp1, Fp2, F7, F3, Fz, F4, F8, T3, C3, Cz, C4, T4, T5, P3, Pz, P4, T6, O1, O2), the electrodes are attached as the figure shown below.
- EEG signals consist of various frequency components. In order to investigate EEG characteristics, frequency domain analysis, more specifically frequency band analysis, is widely used.
- The frequency bands used in the analysis are delta (δ, 1 – 4 Hz), theta (θ, 4 – 8 Hz), alpha1 (α1, 8 – 10 Hz) , alpha2 (α2, 10 – 12 Hz), beta1 (β1, 12–15 Hz), beta2 (β2, 15 – 20 Hz), beta3 (β3, 20 – 30 Hz) and gamma (γ, 30 – 45 Hz).



[EEG channel locations]

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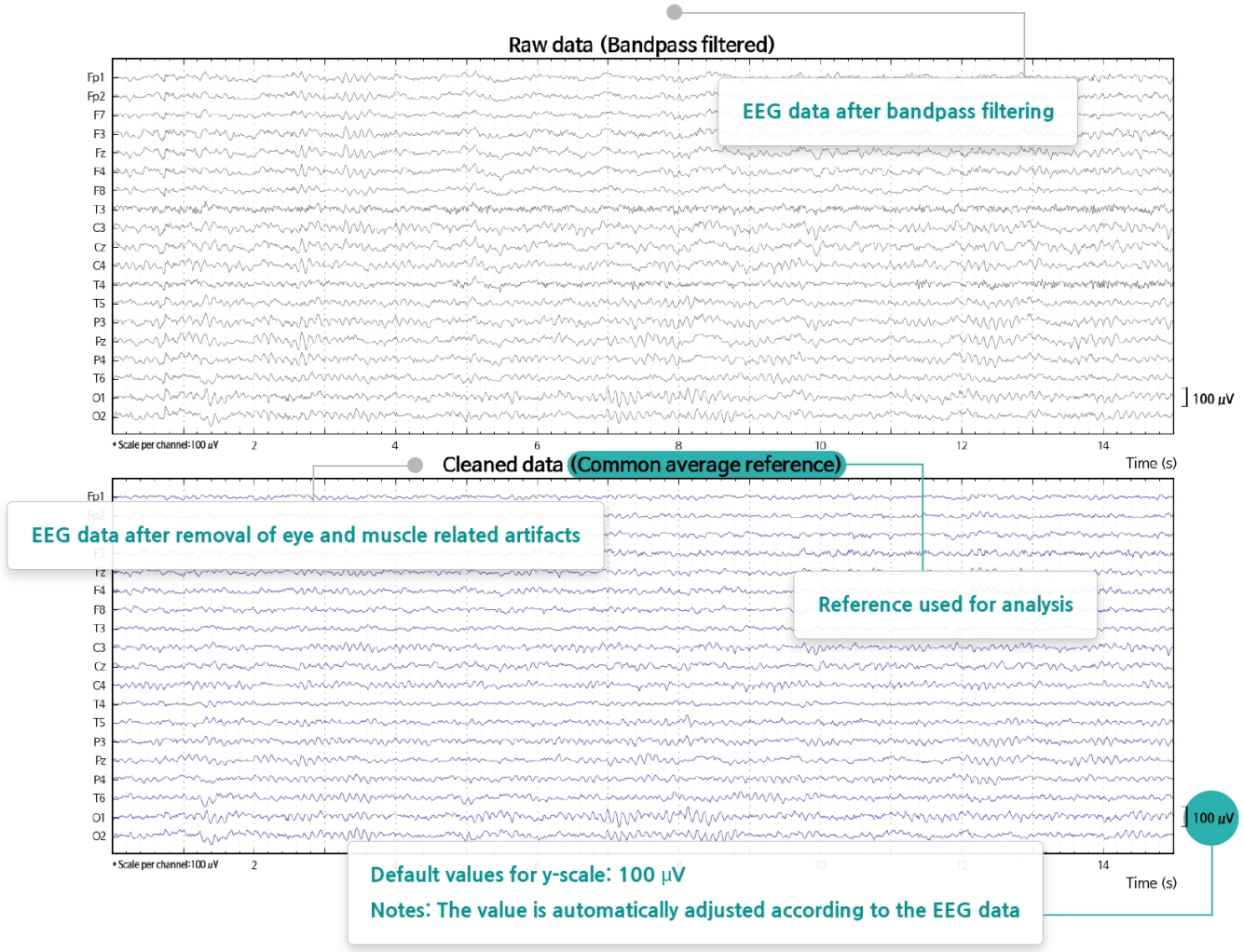
Raw Data

EEG data is a record of the oscillations of electrical brain potentials recorded from electrodes on the human scalp (T100) (T101) (T005) . The raw data in the figure below have been cleaned by the application of high-pass and low-pass filers. This markedly reduces distortions (artifacts) from common physiological sources such as face or eye muscle movements, as well as extrinsic non-physiological sources such as electrical devices, power lines, poor electrode contact.



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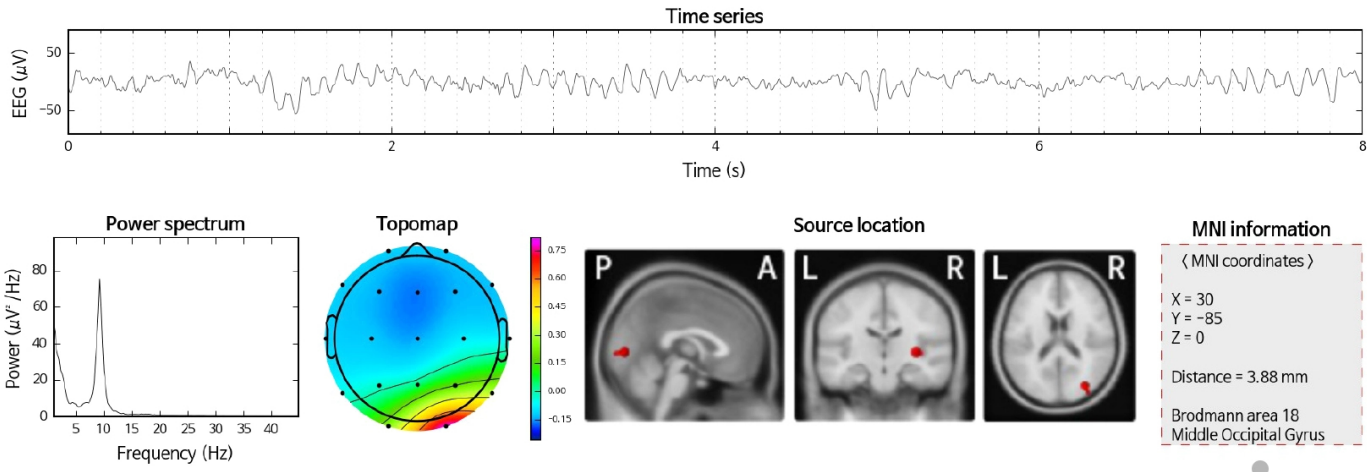
ICA components

Independent component analysis (ICA) is a statistical method to separate independent sources from superimposed signals. It is the most common method that has been used in EEG data decomposition, and can be used to identify and remove the artifacts from raw EEG data. Features including time series, power spectrum density (PSD), component scalp map (Topomap), dipole source location (Source location) extracted from ICA are shown for each component.

[Component 2]



Montreal neurological institute(MNI) information:

(1) MNI coordinates of the dipole

(2) Distance between the centroid of dipoles in normative database of same age group and the dipole location of the component generated

(3) Brodmann area, and its anatomical names of the component

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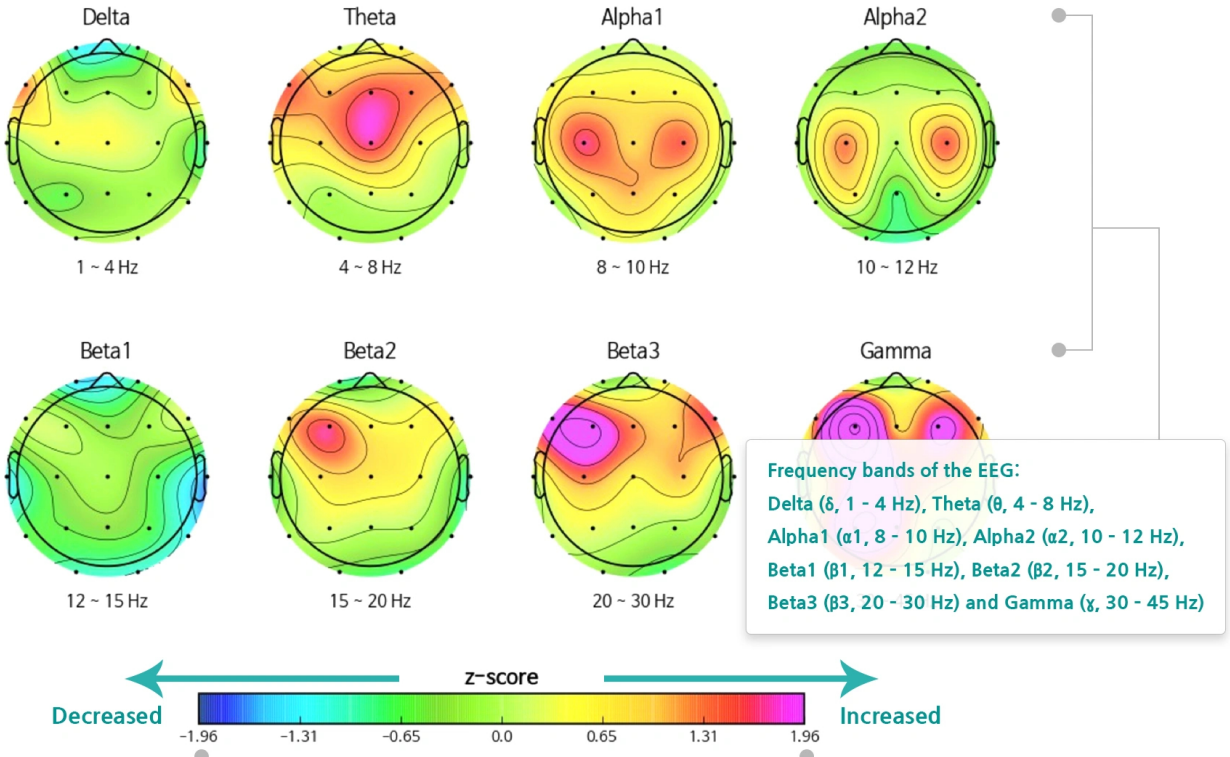
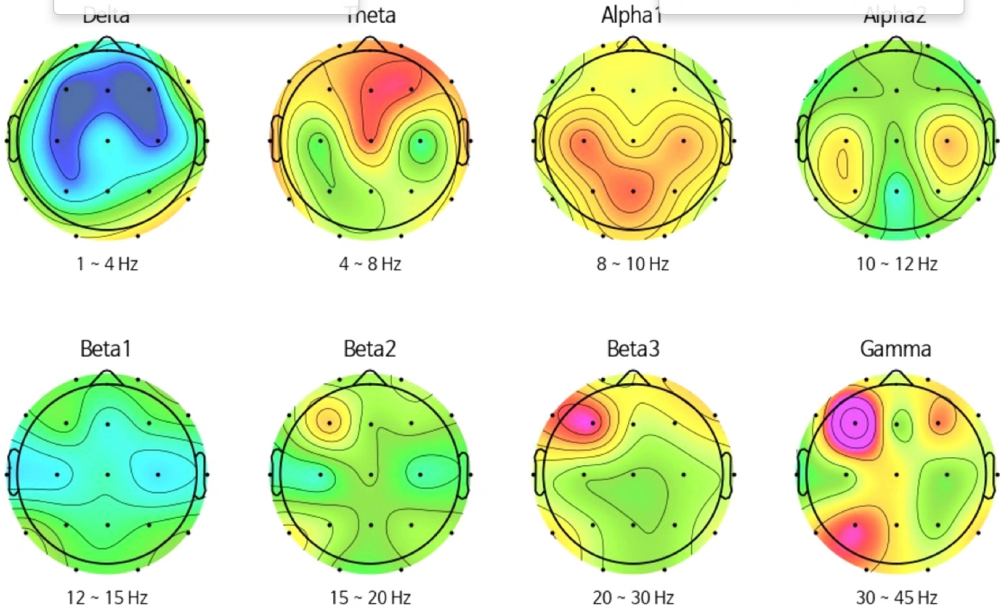
Band power – Topomap

In power spectral density(PSD) 2D map, topomaps of absolute and relative power in 1 Hz bins (1 - 45 Hz) as well as each frequency band are presented. Absolute power is the sum of the component powers for each frequency band. Relative power is the absolute power in a specific frequency band divided by the total power. It is advisable to compare relative power with absolute power, since absolute power reflects the individual differences due to variations in brain tissue. This feature provides absolute and relative power based on six brain regions (prefrontal, frontal, left temporal, right temporal, central, parietal, and occipital). The power spectra for each of the 19 channels are shown in the following feature, PSD spectrum (below).

[Topomap (Abs. power)]



[Topomap (Rel. power)]



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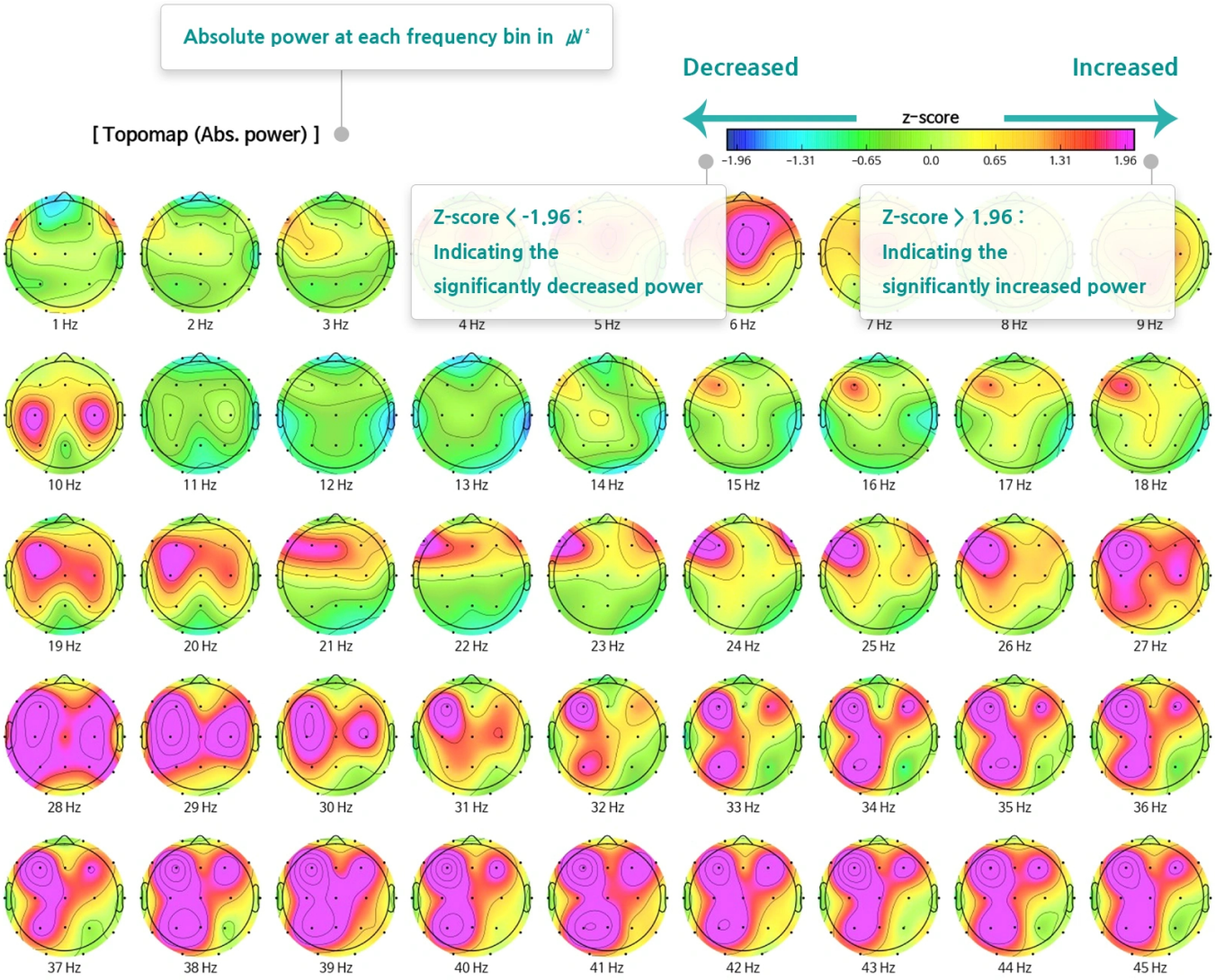

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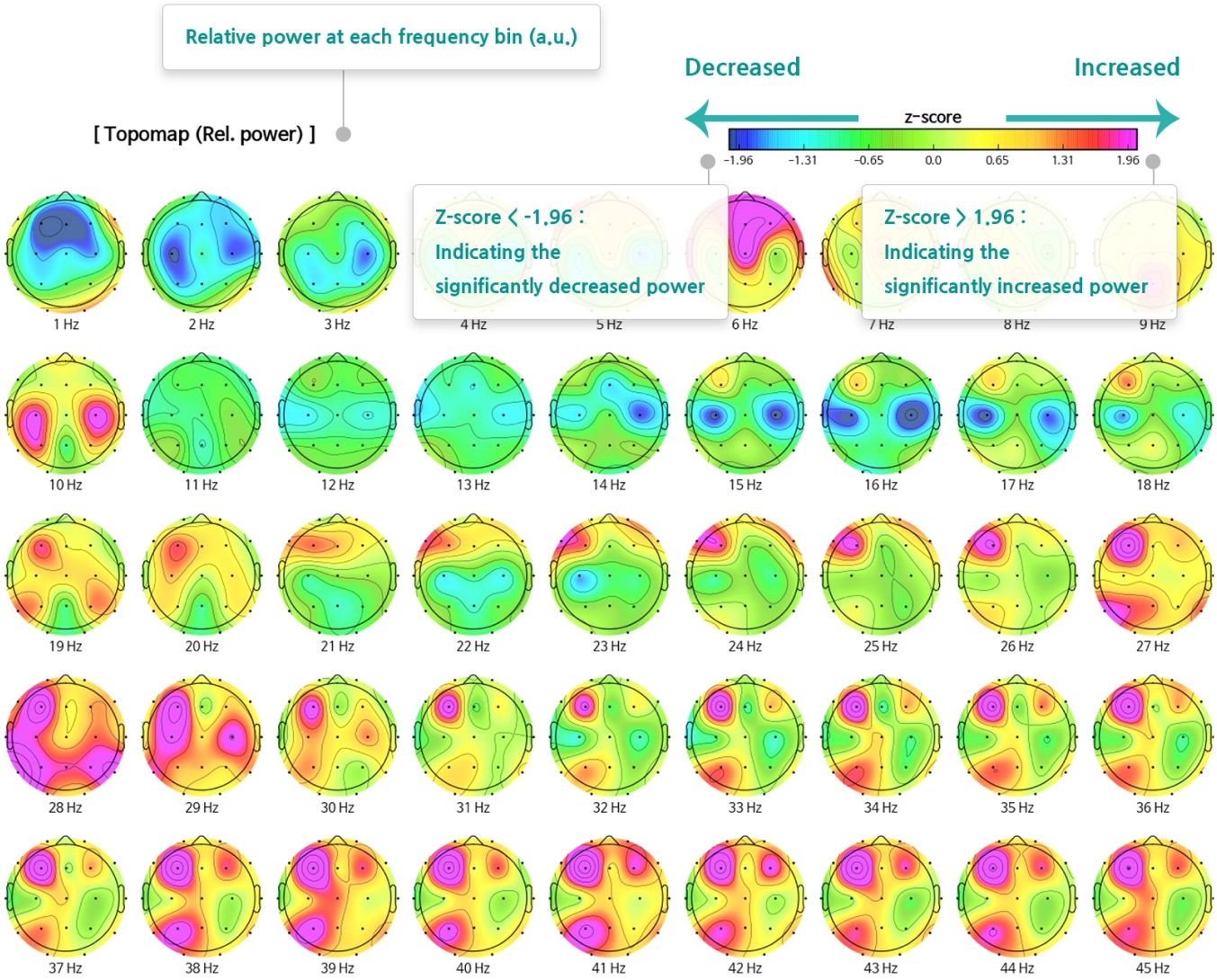

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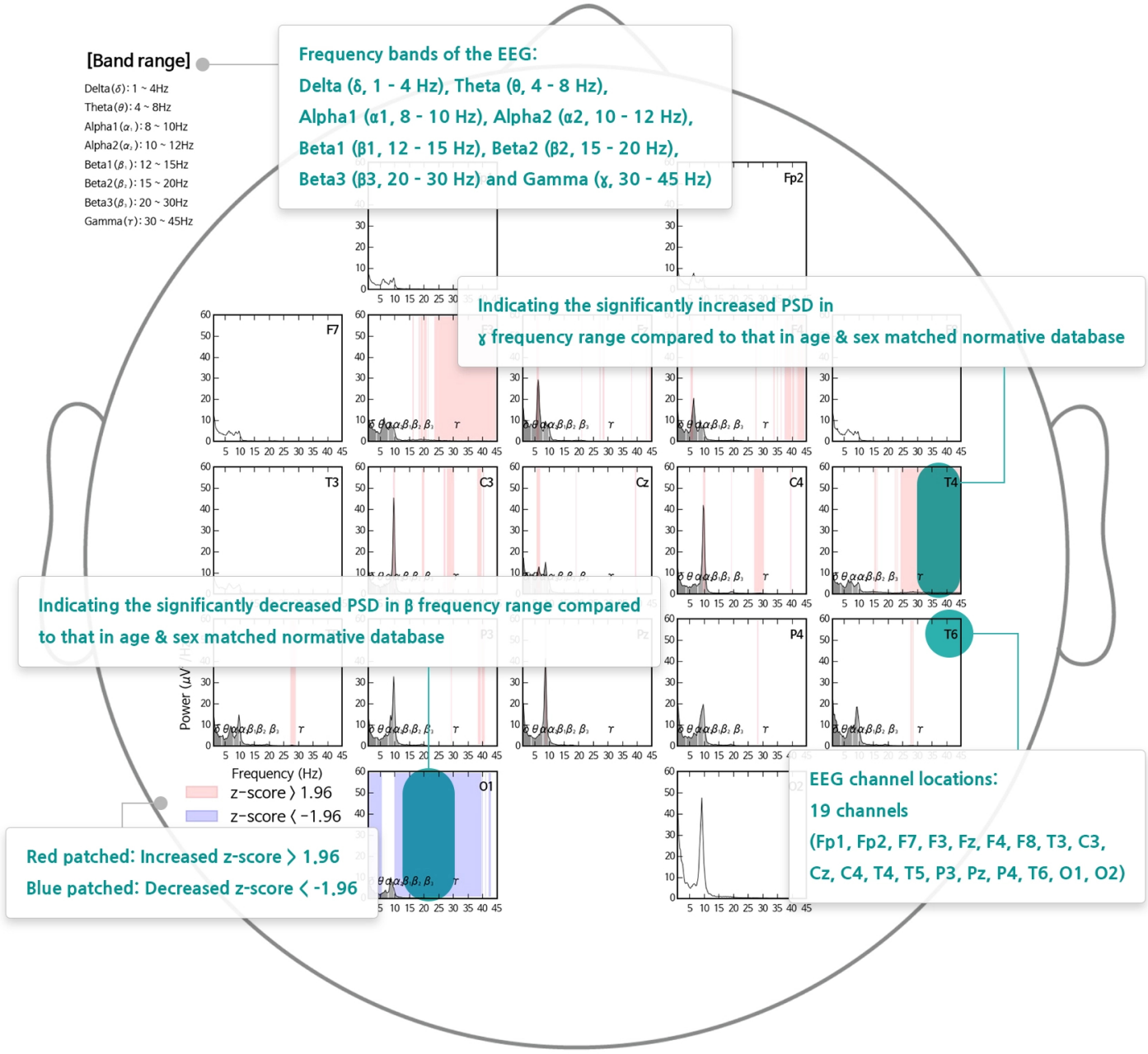
Power spectrum

It shows the EEG power measured from 19 channels. It presents the amplitude of power in units of μV2 / Hz or dB/Hz to obtain the frequency characteristics of the alpha band or beta band, respectively.



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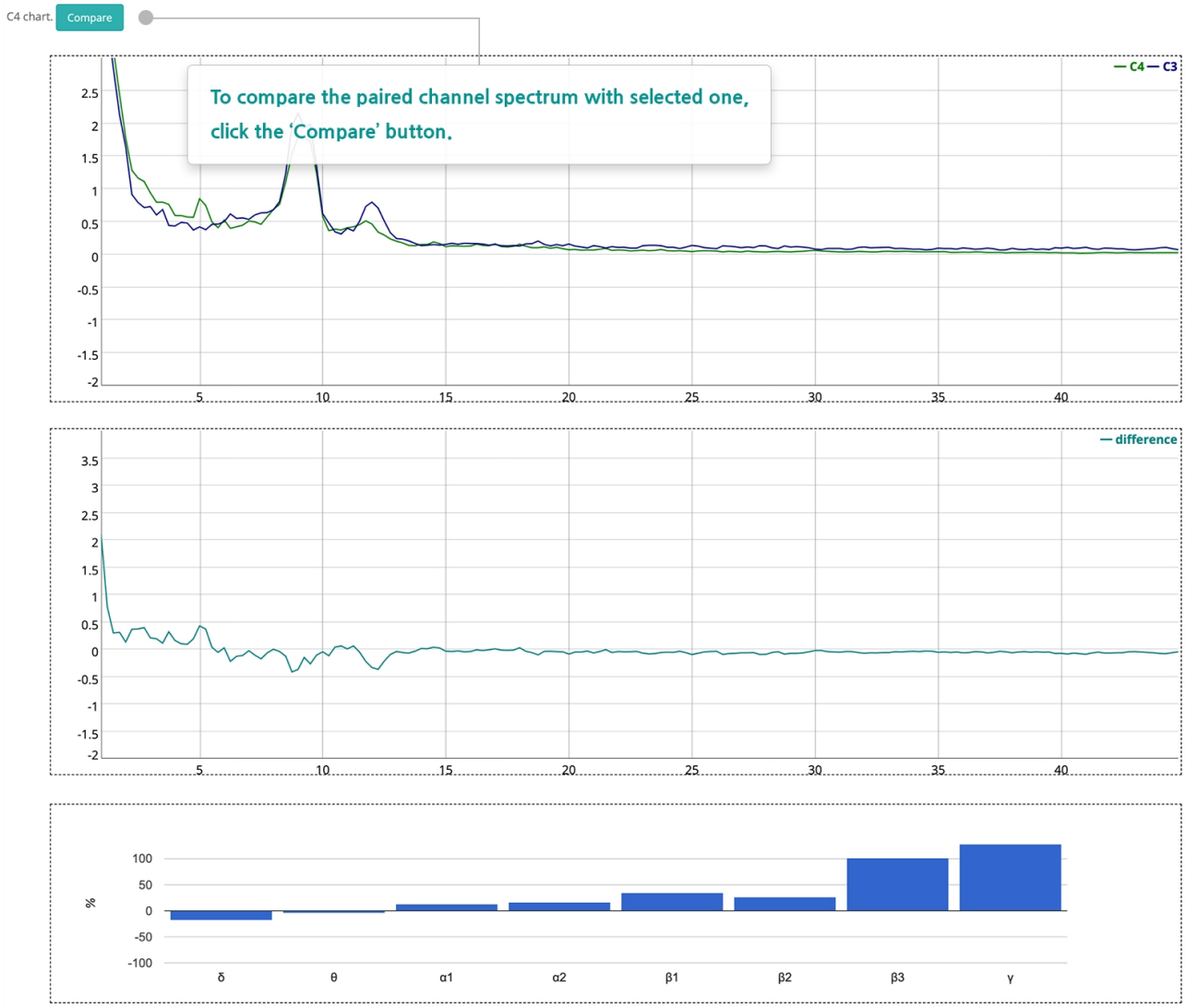
Power spectrum

In power spectrum, it also shows the difference between a pair of channels. When you click the power spectrum of a channel, the power spectrum of the channel appears in a separate window as shown in the lower figure. Click ‘Compare’ to display difference between power spectral densities of the contralateral channels and difference in power per frequency band.



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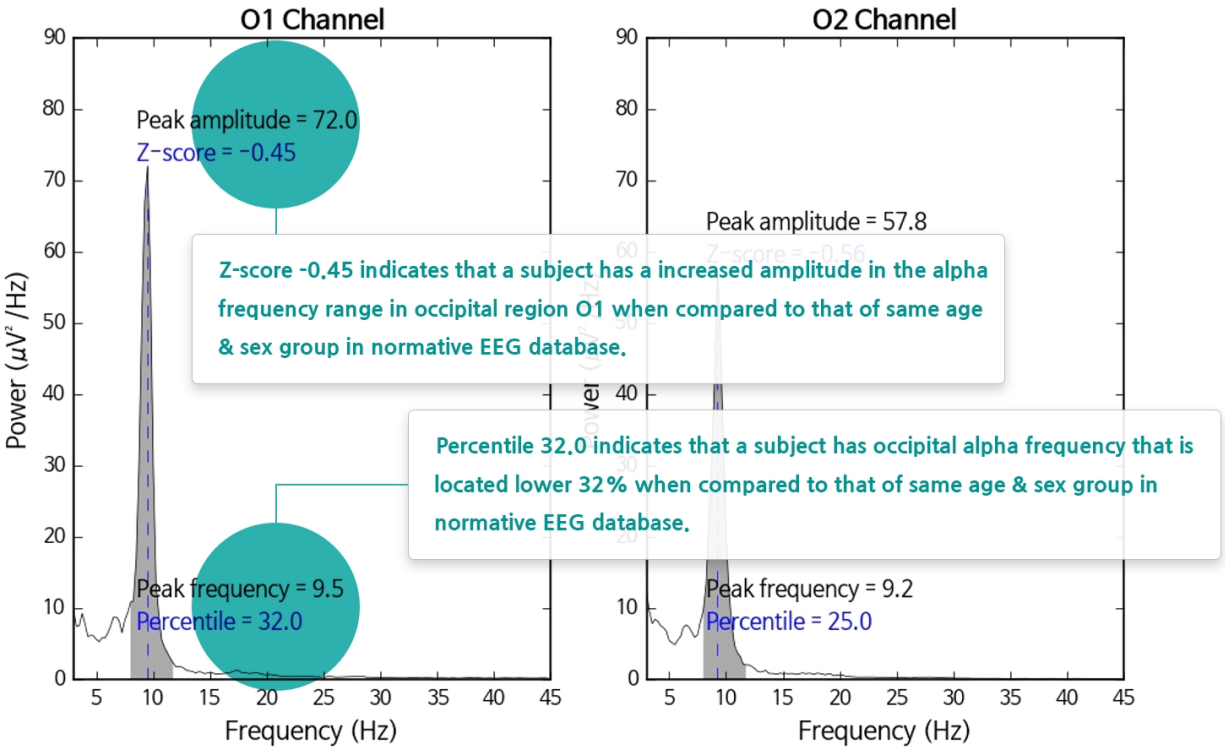
Occipital alpha peak

The occipital alpha frequency is the frequency at which oscillations in the alpha range (8 - 12 Hz) in the occipital regions present their maximum power. This feature shows the percentiles of peak amplitude and frequency compared with the normative EEG database in occipital regions. Alpha frequency may vary markedly to a large extent as a function of age, neurological disease status, memory performance, cognitive processing, and other factors (T179) .

Clinical significance
-Resting state alpha rhythms show decreased amplitude in both Alzheimer`s disease and mild cognitive disorder, compared with normal elderly subjects (T148) (T149) (T150) (T151) (T152) (T153) (T154) (T155) .
-Decreased alpha frequency is known to reflect neurological diseases such as dementia, Alzheimer`s disease, brain injuries, and age-related cognitive performances (T157) (T158) (T159)
-Occipital alpha peak frequency is decreased in autism spectrum disorder (ASD) and furthermore, it is strongly correlated with non-verbal cognition within ASD group (T156) .



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Power ratio

(1)Theta/beta ratio
The theta/beta ratio (TBR) is the ratio of theta (4 - 8 Hz) to beta (13 - 21 Hz) power during the resting conditions. It tends to reflect attention-related functions (T091) (T219) .

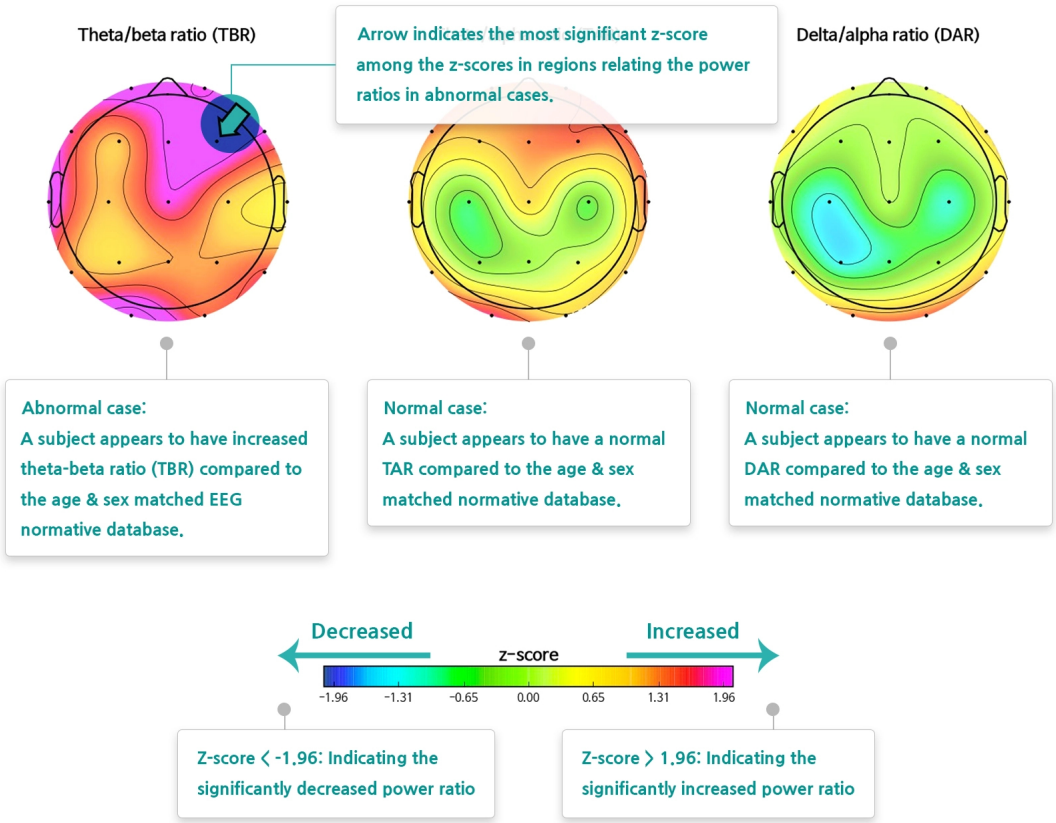
Clinical significance
-Increased TBR is associated with increased reward responsiveness, risk taking and impulsiveness and it tends to reflect attentional control functioning and behavioral inhibition process (T180) .
-The majority of children with ADHD is characterized by increased theta activity and decreased beta activity coupled, and thus a higher TBR (T011) .

(2)Theta/alpha ratio
The theta/alpha ratio (TAR) is the ratio of theta (4 - 8 Hz) to alpha (8 - 12 Hz) relative power during the resting conditions and reflects cognitive ability, especially learning and memory-related functions.

Clinical significance
-Increased TAR is associated with decreased cognitive ability (T207) .
-The majority of older adults with amnestic mild cognitive impairment (aMCI) and probable Alzheimer`s disease (AD) is characterized by increased theta activity and decreased alpha activity coupled (T200) (T201) (T202) .

(3)Delta/alpha ratio
The delta/alpha ratio (DAR) is the ratio of delta (1 - 4 Hz) to alpha (8 - 12 Hz) relative power during the resting conditions and associated with cognitive deficit and functional outcome after stroke.

Clinical significance
-Increased DAR is associated with cognitive impairment for post stroke in frontal lobe (T204) .
-The majority of patients with stroke is characterized by increased delta activity and decreased alpha activity coupled (T204) (T205) (T206) .



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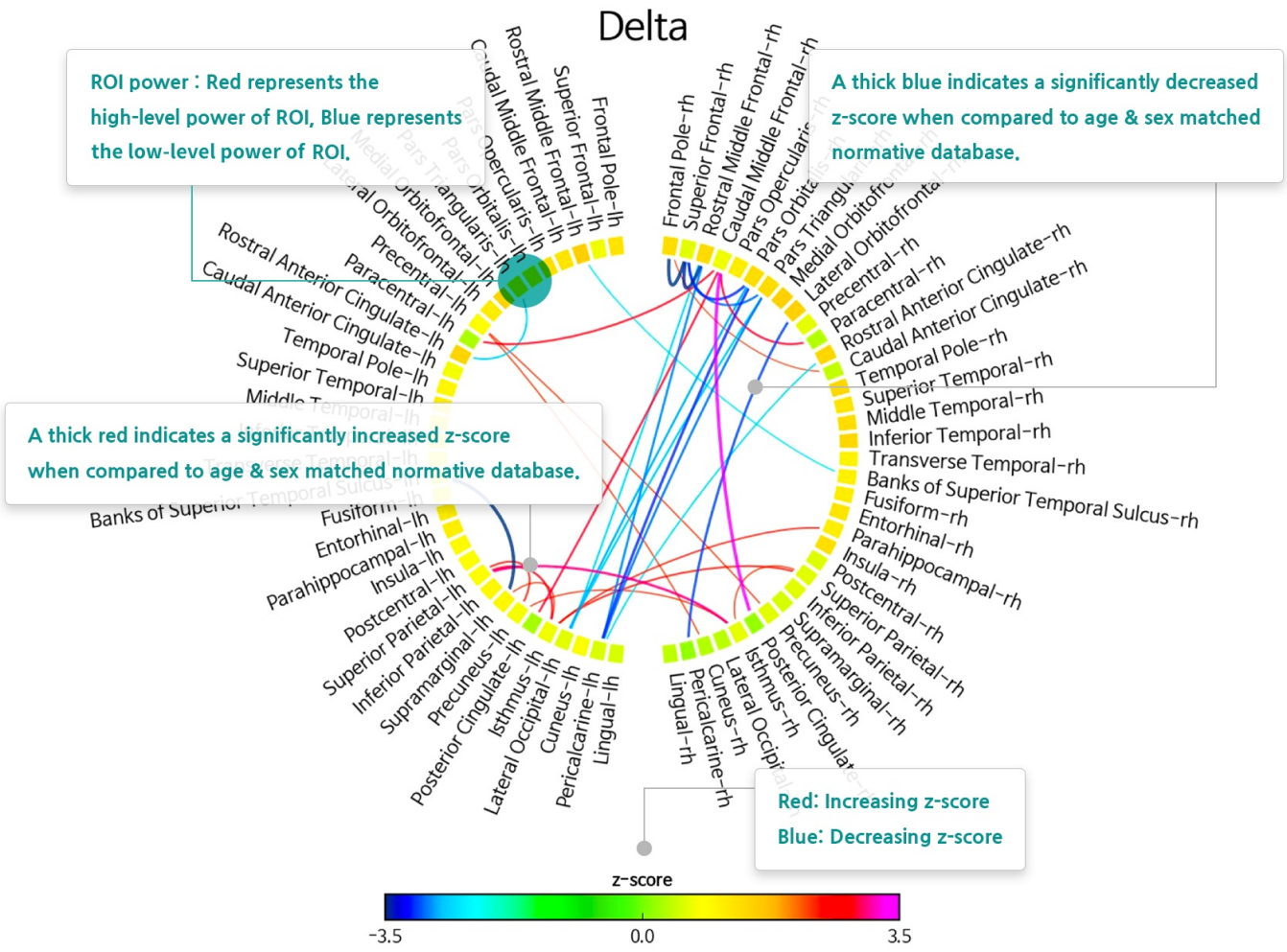
Source ROI power (sLORETA) &connectivity (iCoh)

Source power derives from the EEG channel data using sLORETA (T218) .
The line represents the connectivity (iCoh) of ROIs. Imaginary coherence (iCoh) means the spectral coherence that ignores volume conduction (only using imaginary part).



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Default Mode Network

Table 1. Summary of clinical significance of the DMN

Alzheimer’s disease (AD)
Decreased functional connectivity between posterior and anterior regions (T190) .
Correlations of degeneration of neural pathway between the DMN and amyloid deposits (T182) .
Attention deficit hyperactivity disorder (ADHD)
Coordinated activity of striatum and the DMN (T192) .
Network disruptions in the DMN – dysfunctional connectivity (T193) .
Mood disorders
Correlation between DMN activation and impaired task performance (T194) .
Negatively correlated between the cognitive control network and the DMN (T195) .
Parkinson’s disease (PD)
Dysfunction connectivity in the DMN and rumination (T196) .
Correlation between the duration and number of the depressive episodes and disrupted DMN connectivity (T197) .

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IV. Reference

REFERENCE_NO	CITATION
T163	Squire LR. Encyclopedia of neuroscience. Amsterdam: Academic Press; 2009.
T162	Ramachandran VS. Encyclopedia of human brain. San Diego: Academic Press; 2002.
T029	Kropotov JD. Quantitative EEG, event-related potentials and neurotherapy. Amsterdam: Academic Press; 2009.
T092	Rajeswaran J. Neuropsychological rehabilitation: principles and applications. London: Elsevier; 2013.
T161	Conn PM. Conn's translational neuroscience. London: Academic press; 2013.
T101	Nunez P, and Srinivasan R. Electric fields of the brain: the neurophysics of EEG. New York: Oxford University Press; 2006.
T087	Brodmann K. and Garey L. Brodmann's localisation in the cerebral cortex: the principles of comparative localisation in the cerebral cortex based on cytoarchitectonics. New York: Springer Science Business Media; 2010.
T091	Demos JN. Getting started with neurofeedback. New York: W.W. Norton; 2005.
T178	Demos J. N. Getting started with neurofeedback (1th ed.). New York: W.W. Norton; 2005.
T164	Woolsey TA, Hanaway J, Mokhtar HG. The brain atlas: a visual guide to the human central nervous system. Chichester: John Wiley &Sons, Inc.; 2017.
T100	Niedermeyer E, and Silva FL. Electroencephalography (6th ed.). Philadelphia: Wolters Kluwer Health; 2011.
T135	Swingle PG. Biofeedback for the brain: how neurotherapy effectively treats depression, adhd, autism, and more. New Brunswick: Rutgers University Press; 2010.
T028	Thatcher RW. Handbook of quantitative electroencephalography and EEG biofeedback. St. Petersburg, FL: Anipublishing Co; 2012.
T017	Hales RE, and Yudofsky SC. The American Psychiatric Publishing textbook of neuropsychiatry and behavioral neurosciences (Fifth ed.). Washington, DC: American Psychiatric Publishing; 2008.
T001	Thompson M and Thompson L. The neurofeedback-book: an introduction to basic concepts in applied psychophysiology. Toronto: Association for Applied Psychophysiology and Biofeedback; 2015.
T031	민성길. 최신정신의학. 일조각; 2015.
T098	Kim DW, Kim MS, Kim SP, Park YM, Park JY, Bae KY, et al. Understanding and Application of EEG. HAKJISA Publisher Inc.; 2017.
T005	대한뇌파연구회. 뇌파분석의 기법과 응용. 대한의학서적; 2017.
T179	Klimesch, W. EEG alpha and theta oscillations reflect cognitive and memory performance: a review and analysis. Brain Research. Brain Research Reviews 1999; 29, 169–195.
T190	Delacourte A, David JP, Sergeant N, Buee L, Wattez A, ver- mersch P, et al. The biochemical pathway of neurofibrillary degeneration in aging and Alzheimer's disease. Neurology. 1999; 52(6):1158-65
T219	Assessing attention Deficit Hyperactivity Disorder via Quantitative Electroencephalography: An Initial Validation Study(1999)
T041	Pascual-Marqui RD, Lehmann D, Koenig T, Kochi K, Merlo MC, Hell D, et al. Low resolution brain electromagnetic tomography (LORETA) functional imaging in acute, neuroleptic-naive, first-episode, productive schizophrenia. Psychiatry Research 1999; 90:169-79.
T155	Rodriguez G, Copello F, Nobili F, Vitali P, Perego G, and Nobili F. EEG spectral profile to stage Alzheimer's disease. Clinical Neurophysiology 1999a; 110:1831–1837.
T030	Bresnahan, S. M., Anderson, J. W., and Barry, R. J. Age-related changes in quantitative EEG in attention-deficit/hyperactivity disorder. Biological Psychiatry 1999; 46(12), 1690-1697.
T037	Lorig TS. The application of electroencephalographic techniques to the study of human olfaction: a review and tutorial. International Journal of Psychophysiology 2000; 36:91-104.
T132	Sponheim SR, Brett A, Clementz WG, and Morton B. Clinical and biological concomitants of resting state EEG power abnormalities in schizophrenia. Biological Psychiatry 2000; 48(11), 1088-097.
T169	Engel, A. K., and Singer, W. Temporal binding and the neural correlates of sensory awareness. Trends in Cognitive Sciences 2001; 5, 16–25
T120	Raichle ME, McLeod AM, Snyder AZ, Powers WJ, Gusnard DA, and Shulman GL. A default mode of brain function. Proceedings of

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	the National Academy of Science 2001; 98, 676–682.
T070	Monastra VJ, Lubar JF, and Linden M. The development of a quantitative electroencephalographic scanning process for attention deficit-hyperactivity disorder: Reliability and validity studies. Neuropsychology 2001; 15(1), 136-144.
T111	Clarke AR, Barry RJ, Mccarthy R, and Selikowitz M. Age and sex effects in the EEG: differences in two subtypes of attention-deficit/hyperactivity disorder. Clinical Neurophysiology 2001; 112(5), 815-826.
T016	Clarke AR, Barry RJ, Mccarthy R, and Selikowitz M. EEG-defined subtypes of children with attention-deficit/hyperactivity disorder. Clinical Neurophysiology 2001; 112(11), 2098-2105.
T010	Kowalski JW, Gawel M, Pfeffer A, and Barcikowska M. The Diagnostic Value of EEG in Alzheimer Disease. Journal of Clinical Neurophysiology 2001;18(6), 570-575.
T110	Bresnahan SM and Barry RJ. Specificity of quantitative EEG analysis in adults with attention deficit hyperactivity disorder. Psychiatry Research 2002; 112(2), 133-144.
T019	Vernon, David, Tobias Egner, Nick Cooper, Theresa Compton, Claire Neilands, Amna Sheri, and John Gruzelier. The effect of training distinct neurofeedback protocols on aspects of cognitive performance. International Journal of Psychophysiology 2003; 47(1): 75-85.
T011	Barry RJ, Clarke AR, and Johnstone SJ. A review of electrophysiology in attention-deficit/hyperactivity disorder: I. Qualitative and quantitative electroencephalography. Clinical Neurophysiology 2003;114(2), 171-183.
T218	R.D. Pascual-Marqui. Standardized low resolution brain electromagnetic tomography (sLORETA): technical details. Methods &Findings in Experimental &Clinical Pharmacology 2002, 24D:5-12.
T175	Caplan, J. B., Madsen, J. R., Schulze-Bonhage, A., Aschenbrenner-Scheibe, R., Newman, E. L., and Kahana, M. J. Human theta oscillations related to sensorimotor integration and spatial learning. Journal of Neuroscience 23 2003; 4726-4736.
T053	M'Harzi M and Jarrard LE. Effects of medial and lateral septal lesions on acquisition of a place and cue radial maze task. Behavioural Brain Research 1992; 49:159-165.
T063	Hinrichs, H., and Machleidt, W. Basic emotions reflected in EEG-coherences, International Journal of Psychophysiology 1992; 13(3), 225-232.
T154	Moretti DV, Babiloni C, Binetti G, Cassetta E, Dal Forno G, Ferreri F, Ferri R, Bartolo Lanuzza, Miniussi C, Nobili F, Rodriguez G, Salinari S, and Rossini PM. Individual analysis of EEG frequency and band power in mild Alzheimer's Disease. Clinical Neurophysiology 2004; 115:299–308.
T117	Angelakis E, Lubar JF, Stathopoulou S, and Kounios J. Peak alpha frequency: an electroencephalographic measure of cognitive preparedness. Clinical Neurophysiology 2004; 115(4), 887-897.
T116	Clark CR, Veltmeyer MD, Hamilton RJ, Simms E, Paul R, Hermens D, et al. Spontaneous alpha peak frequency predicts working memory performance across the age span. International Journal of Psychophysiology 2004; 53(1), 1-9.
T131	Jeong JS. EEG dynamics in patients with Alzheimers disease. Clinical Neurophysiology 2004; 115(7), 1490-1505.
T102	Gross J, Schmitz F, Schnitzler I, Kessler K, Shapiro K, Hommel B, et al. Modulation of long-range neural synchrony reflects temporal limitations of visual attention in humans. Proceedings of the National Academy of Sciences 2004; 101(35), 13050-13055.
T217	Antoine Lutz, Lawrence L. Greischar, Nancy B. Rawlings, Matthieu Ricard, and Richard J. Davidson. Long-term meditators self -induce high-amplitude gamma synchrony during mental practice. Proc Natl Acad Sci U S A. 2004; 16; 101(46): 16369-16373.
T153	Koenig T, Prichep L, Dierks T, Hubl D, Wahlund LO, John ER, and Jelic V. Decreased EEG synchronization in Alzheimer's disease and mild cognitive impairment. Neurobiology of Aging 2005; 26(2):165-71.
T045	Schnitzler A and Gross J. Normal and pathological oscillatory communication in the brain. Nature Reviews Neuroscience 2005; 6:285-296.
T078	Leonardo F. Fontenelle, Mauro V. Mendlowicz, Pedro Ribeiro, Roberto A. Piedade, and Marcio Versiani. Low-resolution electromagnetic tomography and treatment response in obsessive-compulsive disorder. International Journal of Neuropsychopharmacology 2006; 9(1):89-94.
T034	Monastra VJ, Lynn S, Linden M, Lubar JF, Gruzelier J, and Lavaque TJ. Electroencephalographic Biofeedback in the Treatment of Attention-Deficit/Hyperactivity Disorder. Applied Psychophysiology and Biofeedback 2005; 30(2), 95-114.
T044	Ribary U. Dynamics of thalamo-cortical network oscillations and human perception. Progress in Brain Research 2005; 150:127-142.
T060	Sauseng P, Klimesch W, Stadler W, Schabus M, Doppelmayr M, et al. A shift of visual spatial attention is selectively associated with human EEG alpha activity. European Journal of Neuroscience 2005; 22(11), 2917-2926.
T172	Steriade, M. Grouping of brain rhythms in corticothalamic systems. Neuroscience 137 2006, 1087-1106.
T148	Babiloni C, Binetti G, Cassetta E, Dal Forno G, Del Percio C, Ferreri F, Ferri R, Frisoni G, Hirata K, Lanuzza B, Miniussi C, Moretti DV, Nobili F, Rodriguez G, Romani GL, Salinari S, and Rossini PM. Sources of cortical rhythms change as a function of cognitive impairment in pathological aging: A multi-centric study. Clinical Neurophysiology 2006;117(2):252-268.
T002	Pilon M, Zadra A, Joncas S, and Montplaisir J. Hypersynchronous Delta Waves and Somnambulism: Brain Topography and Effect of Sleep Deprivation. Sleep 2006; 29(1), 77-84.

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T020 Egner, Tobias, and M Barry Sterman. Neurofeedback treatment of epilepsy: from basic rationale to practical application. Expert Review of Neurotherapeutics. Future Drugs. 2006; 6(2): 247-257.

T055 Osipova D, Takashima A, Oostenveld R, Fernndez G, Maris E, and Jensen O. Theta and gamma oscillations predict encoding and retrieval of declarative memory. Journal of Neuroscience 2006; 26:7523-7531.

T061 Klimesch W, Sauseng P, and Hanslmayr S. EEG alpha oscillations: The inhibition-timing hypothesis. Brain Research Reviews 2007; 53(1), 63-88.

T046 Uhlhaas PJ and Singer W. Neural Synchrony in Brain Disorders: Relevance for Cognitive Dysfunctions and Pathophysiology. Neuron 2006; 52(1), 155-168.

T129 Celone KA, Calhoun VD, Dickerson BC, Atri A, Chua EF, Miller SL, et al. Alterations in Memory Networks in Mild Cognitive Impairment and Alzheimers Disease: An Independent Component Analysis. Journal of Neuroscience 2006; 26(40), 10222-10231.

T166 Cheron, G., Leroy, A., De Saedeleer, C., Bengoetxea, A., Lipshits, M., Cebolla, A., et al. Effect of gravity on human spontaneous 10-Hz electroencephalographic oscillations during the arrest reaction. Brain Research 2006; 1121, 104-116.

T124 Knyazev GG. Motivation, emotion, and their inhibitory control mirrored in brain oscillations. Neuroscience &Biobehavioral Reviews 2007; 31(3), 377-395.

T012 Hobbs MJ, Clarke AR, Barry RJ, Mccarthy R, and Selikowitz M. EEG abnormalities in adolescent males with AD/HD. Clinical Neurophysiology 2007;118(2), 363-371.

T027 Byring, R. F., Salmi, T. K., Sainio, K. O., and rn, H. P. EEG in children with spelling disabilities. Electroencephalography and Clinical Neurophysiology 1991; 79(4), 247-255.

T088 Murias M, Webb SJ, Greenson J, and Dawson G. Resting State Cortical Connectivity Reflected in EEG Coherence in Individuals With Autism. Biological Psychiatry 2007;62(3), 270-273.

T177 Sammler, D., Grigutsch, M., Fritz, T., and Koelsch, S. Music and emotion: electrophysiological correlates of the processing of pleasant and unpleasant music. Psychophysiology 2007; 44, 293-304.

T118 Caviness J, Hentz J, Evidente V, Driver-Dunckley E, Samanta J, Mahant P, et al. Both early and late cognitive dysfunction affects the electroencephalogram in Parkinsons disease. Parkinsonism &Related Disorders 2007; 13(6), 348-354.

T036 Quintana H, Snyder SM, Purnell W, Aponte C, and Sita J. Comparison of a standard psychiatric evaluation to rating scales and EEG in the differential diagnosis of attention-deficit/hyperactivity disorder. Psychiatry Research 2007; 152(2-3), 211-222.

T042 Jensen 0, Kaiser J, and Lachaux JP. Human gamma-frequency oscillations associated with attention and memory. Trends in Neurosciences 2007; 30:317-324.

T013 Clarke AR, Barry RJ, Mccarthy R, Selikowitz M and Johnstone SJ, et al. Coherence in children with Attention-Deficit/Hyperactivity Disorder and excess beta activity in their EEG. Clinical Neurophysiology 2007; 118(7), 1472-1479.

T149 Babiloni C, Cassetta E, Binetti G, Tombini M, Del Percio C, Ferreri F, Ferri R, Frisoni G, Lanuzza B, Nobili F, Parisi L, Rodriguez G, Frigerio L, Gurz M, Prestia A, Vernieri F, Eusebi F, and Rossini PM. Resting EEG sources correlate with attentional span in mild cognitive impairment and Alzheimer's disease. European Journal of Neuroscience 2007; 25(12):3742-57.

T121 Raichle ME and Snyder AZ. A default mode of brain function: A brief history of an evolving idea. NeuroImage 2007; 37(4), 1083-1090.

T195 Castellanos FX, Margulies DS, Kelly C, Uddin LQ, Ghaf- fari M, Kirsch A, et al. Cingulate-precuneus interactions: a new locus of dysfunction in adult attention-deficit/hyperactivity disorder. Biological Psychiatry 2008; 63(3):332-7.

T157 Bonanni L., Thomas A., Tiraboschi P., Perfetti B., Varanese S., and Onofrj M. EEG comparisons in early Alzheimer's disease, dementia with Lewy bodies and Parkinson's disease with dementia patients with a 2-year follow-up. Brain 2008; 131:690- 705.

T184 Dosenbach NU, et al. A dual-networks architecture of top-down control. Trends in Cognitive Sciences 2008; 12:99-105.

T122 Buckner RL, Andrews-Hanna JR, and Schacter DL. The Brains Default Network. Annals of the New York Academy of Sciences 2008; 1124(1), 1-38.

T072 Snyder SM, Quintana H, Sexson SB, Knott P, Haque A, and Reynolds DA. Blinded, multi-center validation of EEG and rating scales in identifying ADHD within a clinical sample. Psychiatry Research 2008; 159(3), 346-358.

T115 Greicius M. Resting-state functional connectivity in neuropsychiatric disorders. Current Opinion in Neurology 2008;24(4), 424-430.

T150 Babiloni C, Frisoni GB, Pievani M, Vecchio F, Lizio R, Buttiglione M, Geroldi C, Fracassi C, Eusebi F, Ferri R, and Rossini PM. Hippocampal volume and cortical sources of EEG alpha rhythms in mild cognitive impairment and Alzheimer disease. Neuroimage 2009a; 44(1):123-35.

T113 Koehler S, Lauer P, Schreppel T, Jacob C, Heine M, Boreatti-Hmmer A, et al. Increased EEG power density in alpha and theta bands in adult ADHD patients. Journal of Neural Transmission 2009; 116(1), 97-104.

T159 Cantero, J.L., Atienza, M., Cruz-Vadell, A., Suarez-Gonzalez, A., and Gil-Neciga, E. Increased synchronization and decreased neural complexity underlie thalamocortical oscillatory dynamics in mild cognitive impairment. NeuroImage 2009, 46, 938-948.

T067 Lubar JF. Discourse on the development of EEG diagnostics and biofeedback for attention-deficit/hyperactivity disorders. Biofeedback and Self-Regulation 1991;16:201-225.

T056 Robbe D and Buzski G. Alteration of theta timescale dynamics of hippocampal place cells by a cannabinoid is associated with

Copyright © iMediSync Inc. All rights reserved.

memory impairment. Journal of Neuroscience 2009; 29:12597-12605.

T183 Hedden T, van Dijk KR, Becker JA, Mehta A, Sperling RA, Johnson KA, et al. Disruption of functional connectivity in clinically normal older adults harboring amyloid burden. Journal of Neuroscience 2009; 29(40):12686-94

T057 Rutishauser U, Ross IB, Mamelak AN, and Schuman EM. Human memory strength is predicted by theta-frequency phase-locking of single neurons. Nature 2010; 464:903-907.

T187 Liao W, et al. Selective aberrant functional connectivity of resting state networks in social anxiety disorder. NeuroImage 2010; 52:1549-1558

T197 Sheline Yi, Price JL, Yan Z, Mintun MA. Resting-state functional MRi in depression unmasks increased connectivity between networks via the dorsal nexus. Proc Natl Acad Sci U S A. 2010; 107(24):11020-25.

T213 Congedo M, John RE, De Ridder D, Prichep L. Group independent component analysis of resting state EEG in large normative samples. Int J Psychophysiol. 2010;78(2):89-99.

T047 Wang XJ. Neurophysiological and computational principles of cortical rhythms in cognition. Physiological Reviews 2010; 90:1195-1268.

T114 Lansbergen MM, Arns M, Dongen-Boomsma MV, Spronk D, and Buitelaar JK. The increase in theta/beta ratio on resting-state EEG in boys with attention-deficit/hyperactivity disorder is mediated by slow alpha peak frequency. Progress in Neuro-Psychopharmacology and Biological Psychiatry 2011; 35(1), 47-52.

T198 Lansbergen MM, Arns M, van Dongen-Boomsma M, Spronk D, Buitelaar JK. The increase in theta/beta ratio on resting-state EEG in boys with attention-deficit/hyperactivity disorder is mediated by slow alpha peak frequency. Prog Neuropsychopharmacol Biol Psychiatry. 2011;35(1):47-52

T194 Liddle EB, Hollis C, Batty MJ, Groom MJ, Totman JJ, Liotti M. Task-related default mode network modula- tion and inhibitory control in ADHD: effects of moti- vation and methylphenidate. Journal of Child Psychology and Psychiatry 2011; 52(7):761-71.

T192 Kwak Y, Peltier S, Bohnen Ni, Muller ML, Dayalu P, Seidler RD. Altered resting state cortico-striatal connectivity in mild to moderate stage Parkinson's disease. Frontiers in Systems Neuroscience. 2010; 4:143

T112 Clarke AR, Barry RJ, Dupuy FE, Heckel LD, Mccarthy R, Selikowitz M, et al. Behavioural differences between EEG-defined subgroups of children with Attention-Deficit/Hyperactivity Disorder. Clinical Neurophysiology 2011; 122(7), 1333-1341.

T141 Ptak R. The Frontoparietal Attention Network of the Human Brain: Action, Saliency, and a Priority Map of the Environment. The Neuroscientist 2012; 18(5), 502-515.

T074 Abibullaev, B., and An, J. Decision Support Algorithm for Diagnosis of ADHD Using Electroencephalograms. Journal of Medical Systems 2011; 36(4), 2675-2688.

T109 Nazari MA, Wallois F, Aarabi A, and Berquin P. Dynamic changes in quantitative electroencephalogram during continuous performance test in children with attention-deficit/hyperactivity disorder. International Journal of Psychophysiology 2011; 81(3), 230-236.

T201 Fonseca LC, Tedrus GM, Fondello MA, Reis IN, Fontoura DS. EEG theta and alpha reactivity on opening the eyes in the diagnosis of Alzheimer's disease. Clin EEG Neurosci.2011; 42(3):185-189.

T173 Knyazev G. EEG delta oscillations as a correlate of basic homeostatic and motivational processes. Neuroscience &Biobehavioral Reviews 36 2012; 677-695.

T144 Ding J, Liao W, Zhang Z, Mantini D, Xu Q, Wu G, et al. Topological Fractionation of Resting-State Networks. PLoS ONE 2011; 6(10), 1-9.

T123 Canuet L, Ishii R, Pascual-Marqui RD, Iwase M, Kurimoto R, Aoki Y, et al. Resting-State EEG Source Localization and Functional Connectivity in Schizophrenia-Like Psychosis of Epilepsy. PLoS ONE 2011; 6(11).

T196 Zhu X, Wang X, Xiao J, Liao J, Zhong M, Wang W, et al. Evidence of a dissociation pattern in resting-state default mode network connectivity in first-episode, treatment-naive major depression patients. Biological Psychiatry. 2012; 71(7):611-7.

T130 Whitfield-Gabrieli S, and Ford JM. Default Mode Network Activity and Connectivity in Psychopathology. Annual Review of Clinical Psychology 2012; 8(1), 49-76.

T058 Liebe S, Hoerzer GM, Logothetis NK, and Rainer G. Theta coupling between V4 and prefrontal cortex predicts visual short-term memory performance. Nature Neuroscience, 2012; 15(3), 456-462.

T128 Xie T, and He Y. Mapping the Alzheimer's Brain with Connectomics. Frontiers in Psychiatry 2012; 2, 1-14.

T151 Babiloni C, Carducci F, Lizio R, Vecchio F, Baglieri A, Bernardini S, Cavedo E, Bozzao A, Buttinelli C, Esposito F, Giubilei F, Guizzaro A, Marino S, Montella P, Quattrocchi CC, Redolfi A, Soricelli A, Tedeschi G, Ferri R, Rossi-Fedele G, Ursini F, Scrascia F, Vernieri F, Pedersen TJ, Hardemark HG, Rossini PM, and Frisoni GB. Resting state cortical electroencephalographic rhythms are related to gray matter volume in subjects with mild cognitive impairment and Alzheimer's disease. Human Brain Mapping 2013; 34(6):1427-46.

T071 Ogrim, G., Kropotov, J., and Hestad, K. The quantitative EEG theta/beta ratio in attention deficit/hyperactivity disorder and normal controls: Sensitivity, specificity, and behavioral correlates. Psychiatry Research 2012; 198(3), 482-488.

T052 Mizumori SJ, Perez GM, Alvarado MC, Barnes CA, and McNaughton BL. Reversible inactivation of the medial septum differentially affects two forms of learning in rats. Brain Research 1990; 528:12-20.

T125 Calmels C, Foutren M, and Stam C. Beta functional connectivity modulation during the maintenance of motion information in.

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working memory: Importance of the familiarity of the visual context. Neuroscience 2012; 212, 49-58.

T180 Massar, S. A. A., Rossi, V., Schutter, D. J. L. G., and Kenemans, J. L. Baseline EEG theta/beta ratio and punishment sensitivity as biomarkers for feedback-related negativity (FRN) and risk-taking. Clinical Neurophysiology 2012; 123, 1958-1965.

T142 Sylvester C, Corbetta M, Raichle M, Rodebaugh T, Schlaggar B, Sheline Y, et al. Functional network dysfunction in anxiety and anxiety disorders. Trends in Neurosciences 2012; 35(9), 527-535.

T069 Loo, S. K., and Makeig, S. Clinical Utility of EEG in Attention-Deficit/Hyperactivity Disorder: A Research Update. Neurotherapeutics 2012; 9(3), 569-587.

T062 Bonnefond M and Jensen O. Alpha oscillations serve to protect working memory maintenance against anticipated distracters. Current Biology 2012; 22:1969-1974.

T099 Arns M, Conners CK, and Kraemer HC. A Decade of EEG Theta/Beta Ratio Research in ADHD: A Meta-Analysis. Journal of Attention Disorders 2013; 17(5), 374-383.

T119 Fiebelkorn I, Snyder A, Mercier M, Butler J, Molholm S, and Foxe J. Cortical cross-frequency coupling predicts perceptual outcomes. NeuroImage 2013; 69, 126-137.

T127 Fink A, and Benedek M. EEG alpha power and creative ideation. Neuroscience &Biobehavioral Reviews 2014; 44, 111-123.

T171 Wang, Q., and Sourina, O. Real-time mental arithmetic task recognition from EEG signals. IEEE Transactions on Neural Systems and Rehabilitation Engineering 2013; 21(2), 225-232.

T004 Kryzhanovskii, G. N., Shandra, A. A., Godlevskii, L. S., and Mikhaleva, I. I. Appearance of Parkinsonian Syndrome after Administration of Delta Sleep-inducing Peptide into the Rat Substantia Nigra. Bulletin of Experimental Biology and Medicine 1990; 109(2), 119-121.

T143 Alfonso M, Miquel T, Xavier B, and Blanca A. Resting Parietal Electroencephalogram Asymmetries and Self-Reported Attentional Control. Clinical EEG and Neuroscience 2013; 44(3), 188-192.

T174 Hasselmo, M. E., and Stern, C. E. Theta rhythm and the encoding and retrieval of space and time. NeuroImage 85(Pt 2) 2014; 656–666.

T107 Vossel S, Geng JJ, and Fink GR. Dorsal and Ventral Attention Systems. The Neuroscientist 2014; 20(2), 150-159.

T210 Hsiao FJ, Wang YJ, Yan SH, Chen WT, Lin YY. Altered oscillation and synchronization of default-mode network activity in mild Alzheimer's disease compared to mild cognitive impairment: an electrophysiological study. PLoS One, 2013 Jul 11;8(7):e68792.

T185 Cole MW, et al. Multi-task connectivity reveals flexible hubs for adaptive task control. Nature Neuroscience 2013; 16:1348-1355.

T134 Micanovic C and Suvankar P. The diagnostic utility of EEG in early-onset dementia: a systematic review of the literature with narrative analysis. Journal of Neural Transmission 2014; 121(1), 59-69.

T170 Plattner, K., Lambert, M. I., Tam, N., Lamberts, R. P., and Baumeister, J. Changes in cortical beta activity related to a biceps brachii movement task while experiencing exercise induced muscle damage. Physiology &Behavior 2014; 123, 1-10.

T203 Schmidt MT, Kanda PA, Basile LF, da Silva Lopes HF, Baratho R, Demario JL, Jorge MS, Nardi AE, Machado S, Ianof JN, Nitrini R, Anghinah R. Index of alpha/theta ratio of the electroencephalogram: a new marker for Alzheimer's disease. Front Aging Neurosci. 2013; 9;5:60. doi: 10.3389/fnagi.2013.00060. eCollection 2013

T008 Brenner, R. P., Ulrich, R. F., Spiker, D. G., Sclabassi, R. J., Reynolds, C. F., Marin, R. S., &Boller, F. (1986). Computerized EEG spectral analysis in elderly normal, demented and depressed subjects. Electroencephalography and Clinical Neurophysiology, 64(6), 483-492.

T160 Harmony T. The functional significance of delta oscillations in cognitive processing. Frontiers in Integrative Neuroscience 7 2013; p.83.

T136 Putman P, Verkuil B, Arias-Garcia E, Pantazi I, and Schie CV. EEG theta/beta ratio as a potential biomarker for attentional control and resilience against deleterious effects of stress on attention. Cognitive, Affective, &Behavioral Neuroscience 2014; 14(2), 782-791.

T200 Bian Z, Li Q, Wang L, Lu C, Yin S, Li X. Relative power and coherence of EEG series are related to amnestic mild cognitive impairment in diabetes. Front Aging Neurosci. 2014; 4;6:11. doi: 10.3389/fnagi.2014.00011. eCollection 2014.

T182 Dennis EL and Thompson PM. Functional brain connectivity using fMRi in aging and Alzheimer’s disease. Neuropsychology Review 2014; 24(1):49-62.

T126 Abundis-Gutirrez A, Checa P, Castellanos C, and Rueda MR. Electrophysiological correlates of attention networks in childhood and early adulthood. Neuropsychologia 2014; 57, 78-92.

T140 Cole MW, Repov G, and Anticevic A. The Frontoparietal Control System: a central role in mental health. The Neuroscientist 2014; 20(6), 652-664.

T167 Arjona, A., Escudero, M., and Gmez, C. M. Updating of attentional and premotor allocation resources as function of previous trial outcome. Scientific Reports 2014; 4:4526.

T007 John, E. The role of quantitative EEG topographic mapping or ‘neurometrics’ in the diagnosis of psychiatric and neurological disorders: the pros. Electroencephalography and Clinical Neurophysiology 1989; 73(1), 2-4.

T158 Prinz PN and Vitiello MV. Dominant occipital (alpha) rhythm frequency in early stage Alzheimer’s disease and depression.

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	Electroencephalogr. Clinical Neurophysiology 1989; 73:427–32.
T205	Schleiger E, Sheikh N, Rowland T, Wong A, Read S, Finnigan S. Frontal EEG delta/alpha ratio and screening for post-stroke cognitive deficits: the power of four electrodes. Int J Psychophysiol. 2014 ;94(1):19-24
T215	Imperatori C, Farina B, Quintiliani MI, Onofri A, Castelli Gattinara P, Lepore M, Gnoni V, Mazzucchi E, Contardi A, Della Marca G. Aberrant EEG functional connectivity and EEG power spectra in resting state post-traumatic stress disorder: a sLORETA study. Biol Psychol. 2014;102:10-7.
T104	Thatcher RW, North DM, and Biver CJ. LORETA EEG phase reset of the default mode network. Frontiers in Human Neuroscience 2014; 8, 1-14.
T208	Kim JS, Shin KS, Jung WH, Kim SN, Kwon JS, Chung CK. Power spectral aspects of the default mode network in schizophrenia: an MEG study. BMC Neurosci. 2014; 5;15:104.
T214	Garcs P, Angel Pineda-Pardo J, Canuet L, Aurtenetxe S, Lpez ME, Marcos A, Yus M, Llanero-Luque M, Del-Pozo F, Sancho M, Maest F. The Default Mode Network is functionally and structurally disrupted in amnestic mild cognitive impairment - a bimodal MEG-DTI study. Neuroimage Clin. 2014; 10;6:214-21.
T193	Putcha D, Ross RS, Cronin-Golomb A, Janes AC, Stern CE. Altered intrinsic functional coupling between core neurocognitive networks in Parkinson's disease. NeuroImage: Clinical 2015; 7:449-55.
T108	Farrant K, and Uddin LQ. Asymmetric development of dorsal and ventral attention networks in the human brain. Developmental Cognitive Neuroscience 2015; 12, 165-174.
T035	Snyder SM, Rugino TA, Hornig M, and Stein MA. Integration of an EEG biomarker with a clinician's ADHD evaluation. Brain and Behavior 2015; 5(4).
T032	Morillas-Romero A, Tortella-Feliu M, Bornas X, and Putman P. Spontaneous EEG theta/beta ratio and delta–beta coupling in relation to attentional network functioning and self-reported attentional control. Cognitive, Affective, &Behavioral Neuroscience 2015;15(3), 598-606.
T165	Mierau, A., Felsch, M., Hlsdnker, T., Mierau, J., Bullermann, P., Weiß, B., et al. The interrelation between sensorimotor abilities, cognitive performance and individual EEG alpha peak frequency in young children. Clinical Neurophysiology 2016; 127, 270–276.
T176	Ofori, E., Coombes, S. A., and Vaillancourt, D. E. 3D Cortical electrophysiology of ballistic upper limb movement in humans. NeuroImage 2015; 115, 30-41.
T204	Finnigan S, Wong A, Read S. Defining abnormal slow EEG activity in acute ischaemic stroke: Delta/alpha ratio as an optimal QEEG index. Clin Neurophysiol. 2016; 127(2): 1452-1459.
T139	Peeters S, Bronswijk SV, Ven VV, Gronenschild E, Goebel R, Os JV, et al. Cognitive correlates of frontoparietal network connectivity ‘at rest’ in individuals with differential risk for psychotic disorder. European Neuropsychopharmacology 2015; 25(11), 1922-1932.
T189	Wang, P., Zhou, B., Yao, H., Zhan, Y., Zhang, Z., Cui, Y., et al. Aberrant intra- and inter-network connectivity architectures in Alzheimer’s disease and mild cognitive impairment. Scientific Reports 2015; 5, 14824.
T106	Hata M, Kazui H, Tanaka T, Ishii R, Canuet L, Pascual-Marqui RD, et al. Functional connectivity assessed by resting state EEG correlates with cognitive decline of Alzheimer’s disease - An eLORETA study. Clinical Neurophysiology 2016; 127(2), 1269-1278.
T145	Oni-Orisan A, Kaushal M, Li W, Leschke J, Ward BD, Vedantam A, et al. Alterations in Cortical Sensorimotor Connectivity following Complete Cervical Spinal Cord Injury: A Prospective Resting-State fMRI Study. PLoS One 2016; 11(3), 1-13.
T137	Schorr B, Schlee W, Arndt M, and Bender A. Coherence in resting-state EEG as a predictor for the recovery from unresponsive wakefulness syndrome. Journal of Neurology 2016; 263(5), 937-953.
T094	Robbie JC, Clarke AR, Barry RJ, Dupuy FE, Mccarthy R, and Selikowitz M. Coherence in children with AD/HD and excess alpha power in their EEG. Clinical Neurophysiology 2016; 127(5), 2161-2166.
T090	Saunders A, Kirk IJ, and Waldie KE. Hemispheric Coherence in ASD with and without Comorbid ADHD and Anxiety. BioMed Research International 2016; 1-12.
T188	Tessitore, A., Giordano, A., De Micco, R., Caiazzo, G., Russo, A., Cirillo, M., Esposito, F., and Tedeschi, G. Functional connectivity underpinnings of fatigue in "Drug-Naive" patients with Parkinson's disease. Movement Disorders 2016; 31(10), 1497-1505.
T186	Lin, H. Y., Tseng, W. Y., Lai, M. C., Matsuo, K. and Gau, S. S. Altered resting-state frontoparietal control network in children with attention-deficit/hyperactivity disorder. Journal of the International Neuropsychological Society 2015; 21, 271-284, doi: 10.1017/S135561771500020X.
T168	Marzbani, H., Marateb, H. R., and Mansourian, M. Neurofeedback: a comprehensive review on system design, methodology and clinical applications. Basic and Clinical Neuroscience 2016; 7, 143-158.
T133	Malek N, Baker MR, Mann C, and Greene J. Electroencephalographic markers in dementia. Acta Neurologica Scandinavica 2016; 135(4), 388-93.
T033	Gloss D, Varma JK, Pringsheim T, and Nuwer MR. Practice advisory: The utility of EEG theta/beta power ratio in ADHD diagnosis: Table. Neurology 2016; 87(22), 2375-2379.
T014	Lou, H. C., Henriksen, L., Bruhn, P., Borner, H., and Nielsen, J. B. Striatal Dysfunction in Attention Deficit and Hyperkinetic Disorder. Archives of Neurology 1989, 46(1), 48-52.

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T105 Imperatori C, Marca GD, Brunetti R, Carbone GA, Massullo C, Valenti EM, et al. Default Mode Network alterations in alexithymia: an EEG power spectra and connectivity study. Scientific Reports 2016; 6(1), 1-11.

T209 Xing M, Tadayonnejad R, MacNamara A, Ajilore O, DiGangi J, Phan KL, Leow A, Klumpp H. Resting-state theta band connectivity and graph analysis in generalized social anxiety disorder. Neuroimage Clin. 2016; 12;13:24-32

T103 Cozac VV, Chaturvedi M, Hatz F, Meyer A, Fuhr P, and Gschwandtner U. Increase of EEG Spectral Theta Power Indicates Higher Risk of the Development of Severe Cognitive Decline in Parkinson's Disease after 3 Years. Frontiers in Aging Neuroscience 2016; 8, 1-7.

T147 Adolph D. and Margraf J. The differential relationship between trait anxiety, depression, and resting frontal α-asymmetry. Journal of Neural Transmission 2017; 124(3), 379-386.

T066 Park, J. H., Hong, J. S., Han, D. H., Min, K. J., Lee, Y. S., Kee, B. S., and Kim, S. M. Comparison of QEEG Findings between Adolescents with Attention Deficit Hyperactivity Disorder (ADHD) without Comorbidity and ADHD Comorbid with Internet Gaming Disorder. Journal of Korean Medical Science 2017; 32(3), 514-521.

T138 Berry AS, Sarter M, and Lustig C. Distinct Frontoparietal Networks Underlying Attentional Effort and Cognitive Control. Journal of Cognitive Neuroscience 2017; 29(7), 1212-1225.

T211 Koelewijn L, Bompas A, Tales A, Brookes MJ, Muthukumaraswamy SD, Bayer A, Singh KD. Alzheimer's disease disrupts alpha and beta-band resting-state oscillatory network connectivity. Clin Neurophysiol. 2017;128(11):2347-2357

T199 Schutte I, Kenemans JL, Schutter DJLG. Resting-state theta/beta EEG ratio is associated with reward- and punishment-related reversal learning. Cogn Affect Behav Neurosci. 2017; 17(4): 754-763

T216 Han Y, Wang K, Jia J, Wu W. Changes of EEG Spectra and Functional Connectivity during an Object-Location Memory Task in Alzheimer's Disease. Front Behav Neurosci. 2017; 31;11:107.

T146 Park JE, Jung SC, Ryu KH, Oh JY, Kim H S, Choi C, .et al. Differences in dynamic and static functional connectivity between young and elderly healthy adults. Neuroradiology 2017; 59(8), 781-789.

T156 Dickinson, A., DiStefano, C., Senturk, D., and Jeste, S. S. Peak alpha frequency is a neural marker of cognitive function across the autism spectrum. European Journal of Neuroscience 2017; 47(6):643-651.

T206 Aminov A, Rogers JM, Johnstone SJ, Middleton S, Wilson PH. Acute single channel EEG predictors of cognitive function after stroke. PLoS One. 2017; 2;12(10):e0185841

T202 Fahimi G, Tabatabaei SM, Fahimi E, Rajebi H. Index of Theta/Alpha Ratio of the Quantitative Electroencephalogram in Alzheimer's Disease: A Case-Control Study. Acta Med Iran. 2017; 55(8):502-506.

T212 Whitton AE, Deccy S, Ironside ML, Kumar P, Beltzer M, Pizzagalli DA. Electroencephalography Source Functional Connectivity Reveals Abnormal High-Frequency Communication Among Large-Scale Functional Networks in Depression. Biol Psychiatry Cogn Neurosci Neuroimaging. 2018;3(1):50-58

T003 Feinberg I., Baker T., Leder R., and March J. Response of Delta (0-3 Hz) EEG and Eye Movement Density to a Night with 100 Minutes of Sleep. Sleep 1988; 11(5), 473-487.

T025 N, K. C. Computed Electroencephalographic Activity Mapping in Schizophrenia. Archives of General Psychiatry 1987; 44(6), 514.

T018 Tansey MA. EEG sensorimotor rhythm biofeedback training: some effects on the neurologic precursors of learning disabilities. International Journal of Psychophysiology 1984;1(2): 163-77.

T048 Berry SD and Thompson RF. Prediction of learning rate from the hippocampal electroencephalogram. Science 1978; 200:1298-1300.

T049 Winson J. Loss of hippocampal theta rhythm results in spatial memory deficit in the rat. Science 1978; 201:160-163.

T051 Mitchell SJ, Rawlins JN, Steward O, Olton DS. Medial septal area lesions disrupt theta rhythm and cholinergic staining in medial entorhinal cortex and produce impaired radial arm maze behavior in rats. Journal of Neuroscience 1982; 2:292-302.

T009 Soininen, H., Partanen, V. J., Helkala, E., and Riekkinen, P. J. EEG findings in senile dementia and normal aging. Acta Neurologica Scandinavica 1982; 65(1), 59-70.

T050 Macrides F, Eichenbaum HB, and Forbes WB. Temporal relationship between sniffing and the limbic theta rhythm during odor discrimination reversal learning. Journal of Neuroscience 1982; 2:1705-1717.

T039 Pascual-Marqui RD, Michel CM, Lehmann D. Low resolution electromagnetic tomography: a new method for localizing electrical activity in the brain. International Journal of Psychophysiology 1994; 18:49-65.

T152 Dierks T, Ihl R, Frolich L, and Maurer K. Dementia of the Alzheimer type: effects on the spontaneous EEG described by dipole sources. Psychiatry Research 1993; 50(3):51-162.

T006 Chabot, R. J., Merkin, H., Wood, L. M., Davenport, T. L., and Serfontein, G. Sensitivity and Specificity of QEEG in Children with Attention Deficit or Specific Developmental Learning Disorders. Clinical EEG and Neuroscience 1996; 27(1), 26-34.

T054 Klimesch W, Doppelmayr M, Russegger H, and Pachinger T. Theta band power in the human scalp EEG and the encoding of new information. Neuroreport 1996; 7:1235-1240.

T207 Jelic V, Shigeta M, Julin P, Almkvist O, Winblad B, Wahlund LO. Quantitative electroencephalography power and coherence in Alzheimer's disease and mild cognitive impairment. Dementia. 1996;7(6):314-23.

T059 Pfurtscheller G, Stanck A Jr, and Neuper C. Event-related synchronization (ERS) in the alpha band--an electrophysiological

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correlate of cortical idling: a review. International Journal of Psychophysiology 1996; 24:39-46.

T015 Tak Youn, and Jun Soo Kwon. Clinical Applications of Quantitative EEG. 수면-정신생리 1995; 2(1), 31-43.

T040 Kim MR, Kim KR, Ha CK, Choi SH, and Lee IK. Comparative Study between Visual Analysis and Low Resolution Electromagnetic Tomography (LORETA) Method in the Localization of Epileptiform Discharges. Journal of the Korean Neurological Association 2002; 20:164-168.

T097 Hyeonjin Jeon and Seung-Hwan Lee. Electroencephalography of Learning and Memory. Korean Journal of Biological Psychiatry 2016; 23(3), 102-107.

T096 Eun-Kyoung Cho, Byung-Ok Choi, Yong-Jae Kim, Ki-Duck Park, Eung-Su Kim, and Kyoung-Gyu Choi. Quantitative EEG in de novo Parkinson's Disease: Comparison with Normal Controls and Essential Tremor Patients with Nonlinear Analysis. Korean Society for Clinical Neurophysiology 2006; 8(2), 135-145.

T024 Sung Hoon Lee, Hyun Sook Kang, Eun Sun Han, and Ho Young Lee. The Hypofrontalism of Schizophrenics on the Topographic Mapping od EEG. J Korean Neuropsychiatr Assoc 1991; 30(6), 982-989.

T021 Pineda J, Brang D, Hecht E, Edwards L, Carey S, et al. Positive behavioral and electrophysiological changes following neurofeedback training in children with autism. Research in Autism Spectrum Disorders 2008; 2(3), 557-581.

T022 Hoagland, H., Cameron, D. E., &Rubin, M. A. The Electrencephalogram Of Schizophrenics During Insulin Treatments. American Journal of Psychiatry 1937; 94(1), 183-208.

T023 Small, J. G. EEG in Schizophrenia and affective disorder. EEG and Evoked Potentials in Psychiatry and Behavioral Neurology 1983; 25-40.

T026 Schatzberg, A. F., Elliott, G. R., Lerbinger, J. E., Marcel, B., and Duffy, F. H. Topographic Mapping in Depressed Patients. Topographic Mapping of Brain Electrical Activity 1986; 389-391.

T038 Jung KY. Dipole source localization in EEG. Journal of Korean Epilepsy Society 2002; 119-122.

T043 Llins R, Urbano FJ, Leznik E, Ramrez RR, and van Marle HJ. Rhythmic and dysrhythmic thalamocortical dynamics: GABA systems and the edge effect. Trends in Neurosciences 2005; 28:325-333.

T064 Demos JN. Getting started with neurofeedback. New York: W.W. Norton; 2005.

T065 Kim BN, Shin SU, Kwon JS, Shin MS, Cho SC, and Hong KE. QEEG findings in attention deficit/hyperactivity disorder. Journal of Korean Neuropsychiatric Association 2000; 39, 208-218.

T068 Lubar JF, Swartwood MO, Swartwood JN, and Timmermann DL. Quantitative EEG and auditory event-related potentials in the evaluation of attention-deficit/hyperactivity disorder: effects of methylphenidate and implications for neurofeedback training. Journal of Psychoeducational Assessment 1995;143-160.

T075 Yoo J. The effectiveness of neurofeedback training on the inattention &impulsivity of ADHD children [dissertation]. Busan: Pusan National University; 2009.

T076 Roh O, Park T, Park S, and Son C. The Effects of Neurofeedback Training on Inattention and Hyperactivity/Impulsivity in Children with ADHD. Korean Journal of Clinical Psychology 2011; 30(2), 397-418.

T077 Kwon MS. Effects of neuro-feedback training including behaviour contract with ADHD (Attention Deficit Hyperactivity Disorder) [dissertation]. Seoul: Kyung Hee University; 2012.

T079 윤중수. 뇌파학 개론. 고려의학; 1999.

T080 정사준 옮김. 뇌파판독 STEP BY STEP(입문편) 제4판. 군자출판사; 2007.

T081 정사준 옮김. 뇌파판독 STEP BY STEP(증례편) 제4판. 군자출판사; 2007.

T082 양영철, 이양희. 뇌 맵핑 마인드. 말글빛냄; 2005.

T083 Caton, R. Electrical currents of the brain. Chicago Journal of Nervous &Mental Disease 1875; 2(4), 610.

T084 Berger, H. ber das Elektroenkephalogramm des Menschen. Archiv fr Psychiatrie und Nervenkrankheiten 1929; 87, 527-570.

T085 Birbaumer, N. et al. Clinical application of an EEG-based brain-computer interface: a case study in a patient with severe motor impairment. Clinical Neurophysiology 2003; 114(3), 399-409.

T086 Walker JE, Kozlowski GP, and Lawson R. A Modular Activation/Coherence Approach to Evaluating Clinical/QEEG Correlations and for Guiding Neurofeedback Training: Modular Insufficiencies, Modular Excesses, Disconnections, and Hyperconnections. Journal of Neurotherapy 2007; 11(1), 25-44.

T089 D. T. Stuss, M. P. Alexander, and D. F. Benson. “Frontal lobe functions,” in Contemporary Behavioral Neurology. Blue Books of Practical Neurology 1997; 169-187.

T095 Benham, G., Rasey, H. W., Lubar, J. F., Frederick, J. A., and Zoffuto, A. C. EEG Power-Spectral and Coherence Differences Between Attentional States during a Complex Auditory Task. Journal of Neurotherapy 1997; 2(3), 1-9.

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