

Brain-Computer Interface

Motor Imagery Analysis

Subjects: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

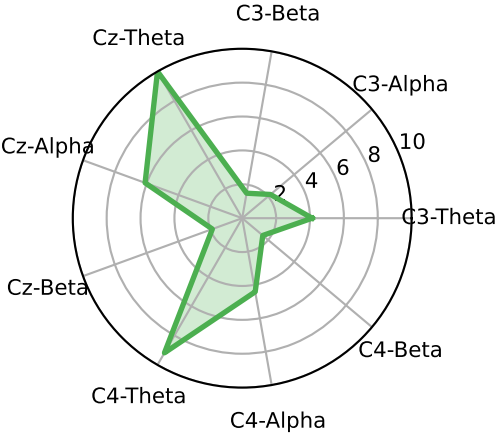
Task: Task4

Date: 2025-05-19

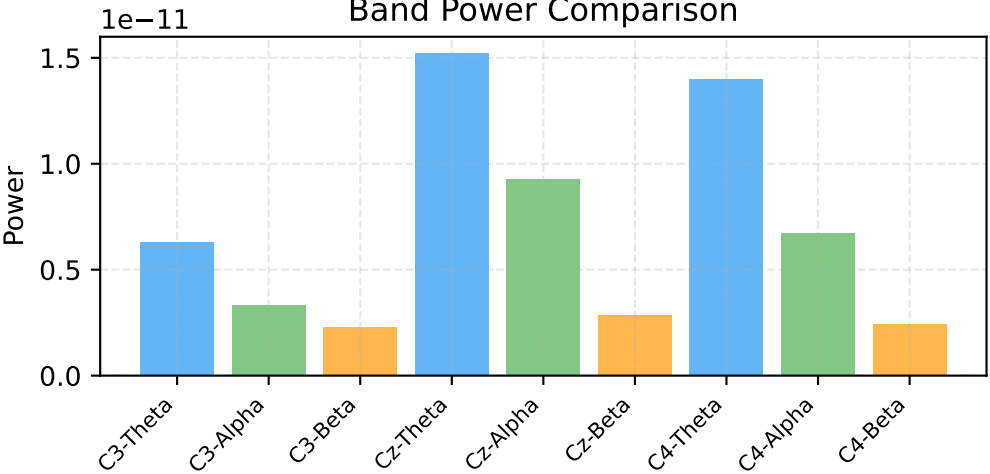
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 1, REST State

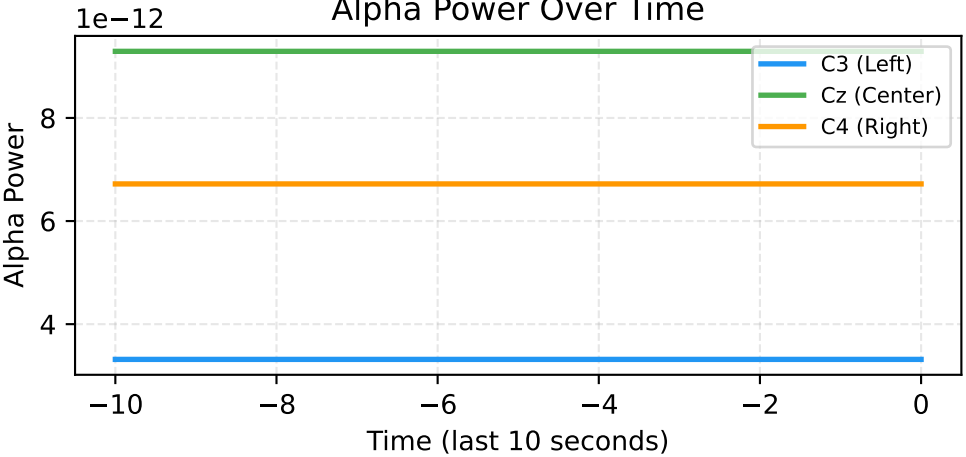
EEG Band Power Distribution



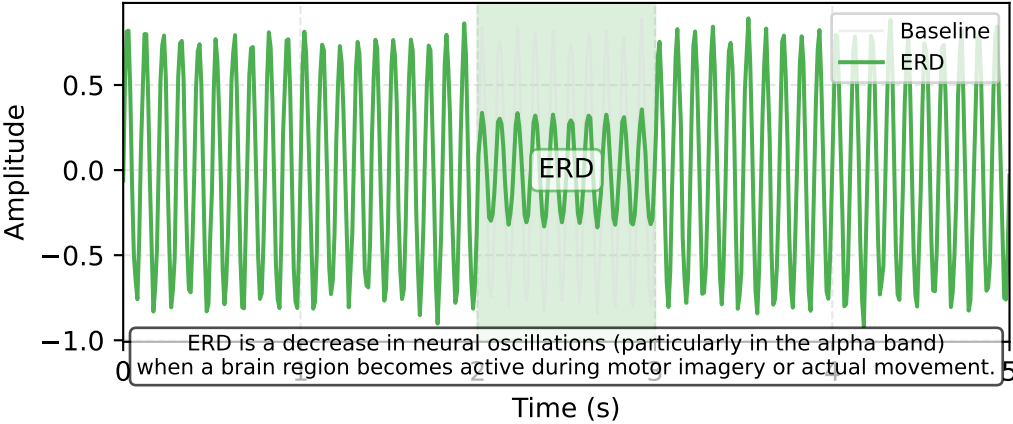
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



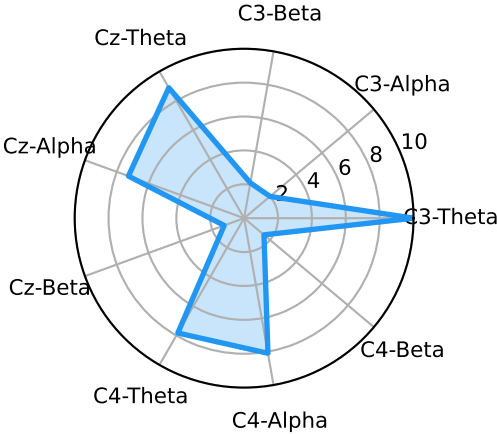
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

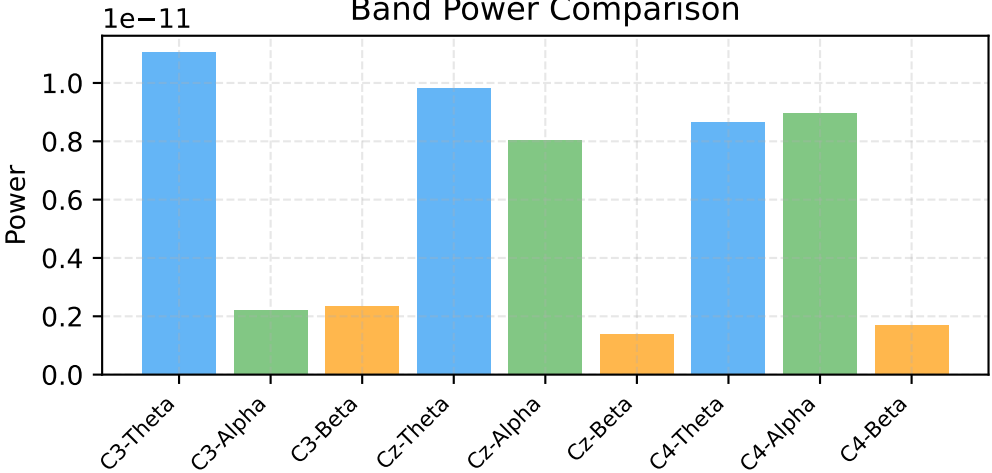
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 1, LEFT State

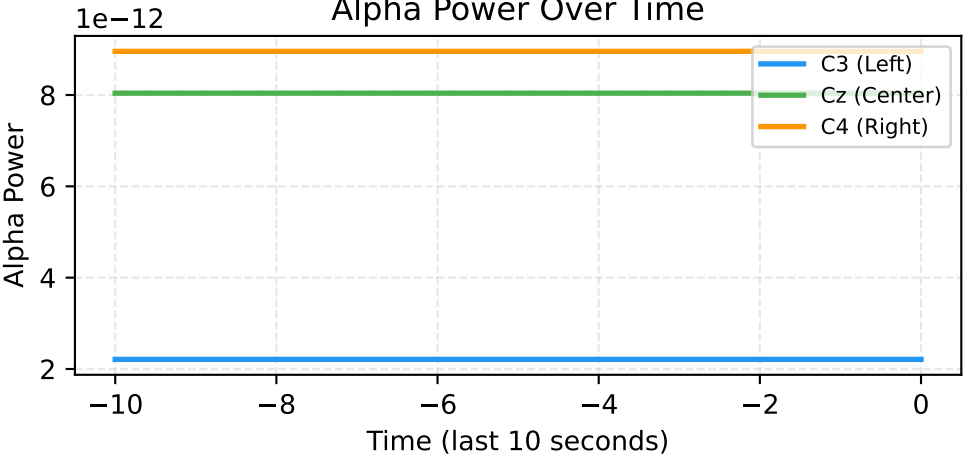
EEG Band Power Distribution



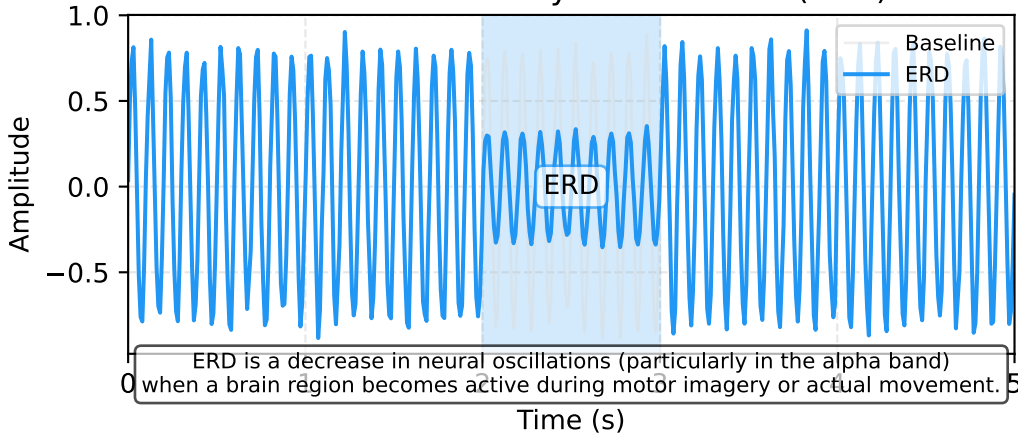
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



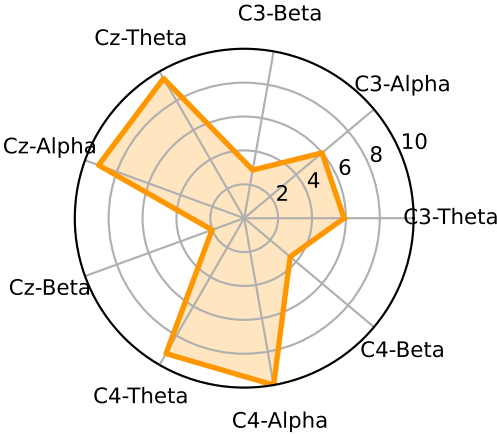
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

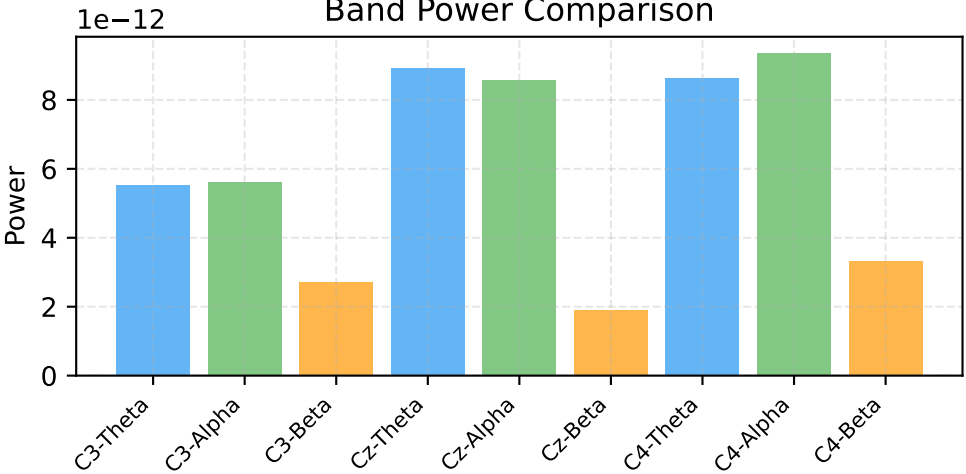
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 1, RIGHT State

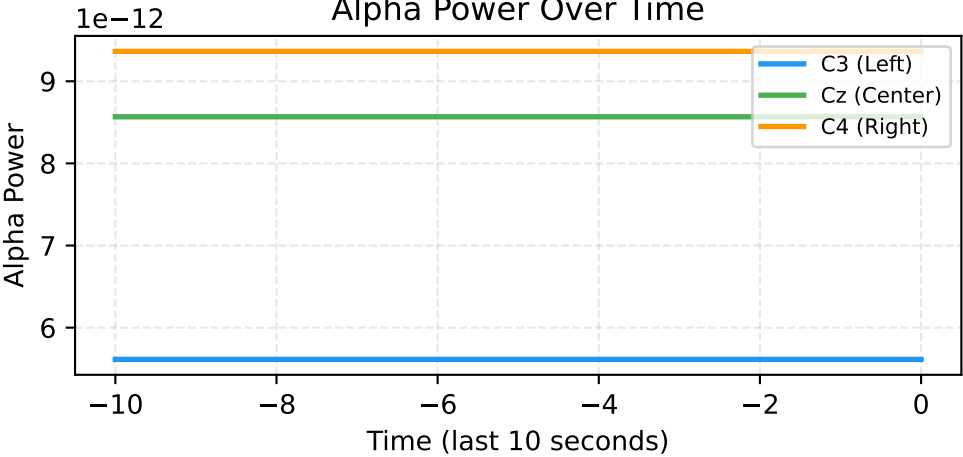
EEG Band Power Distribution



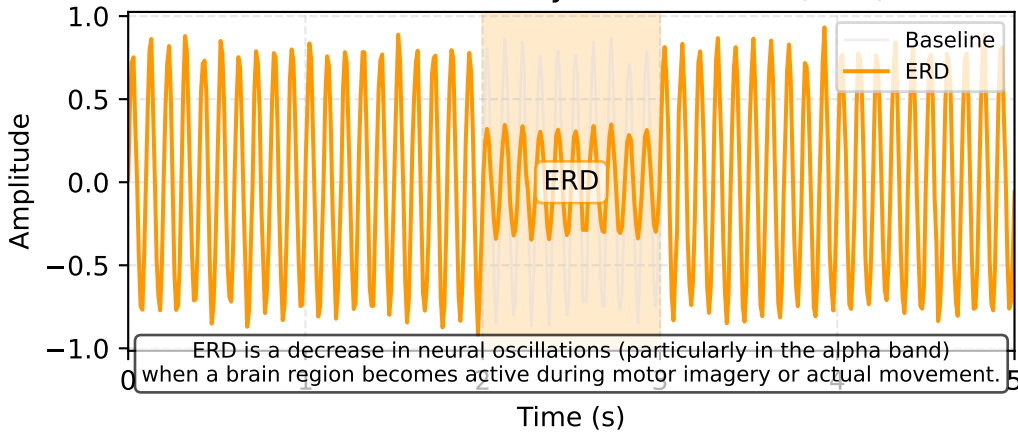
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



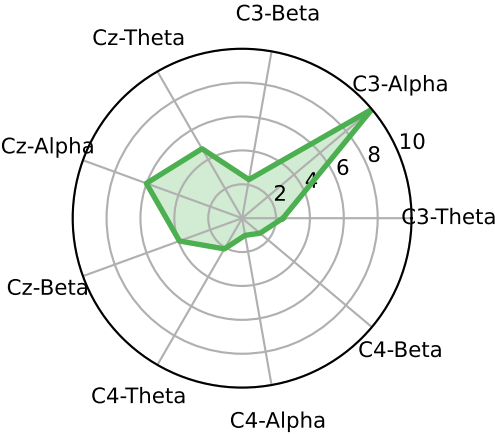
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

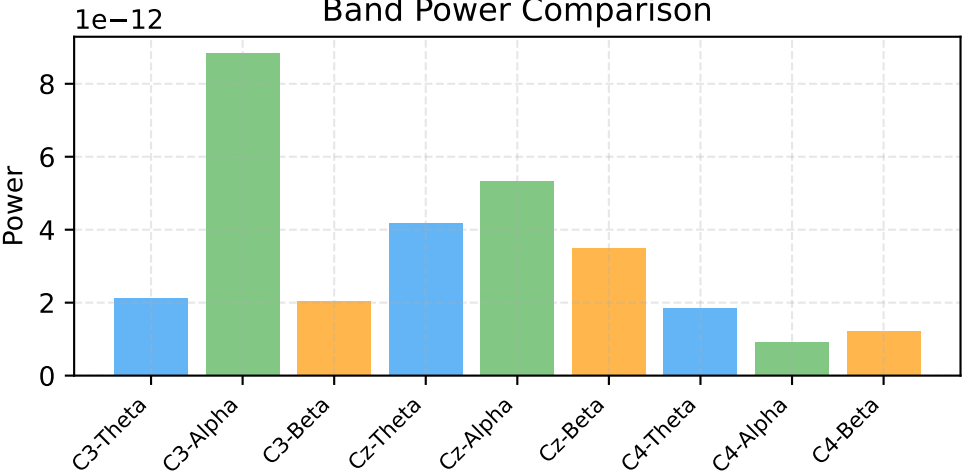
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 2, REST State

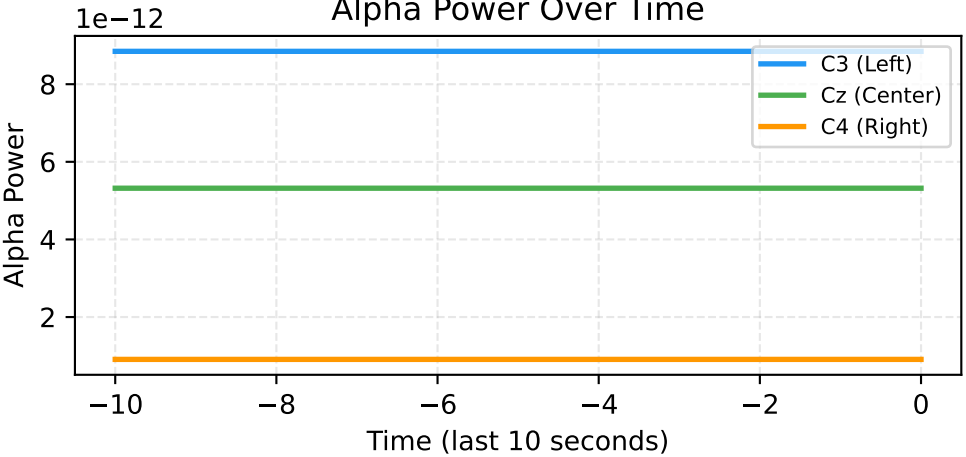
EEG Band Power Distribution



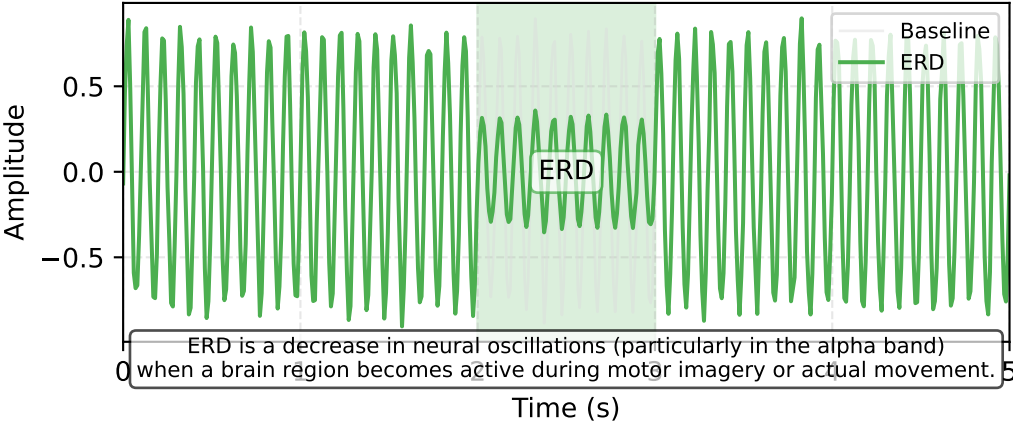
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



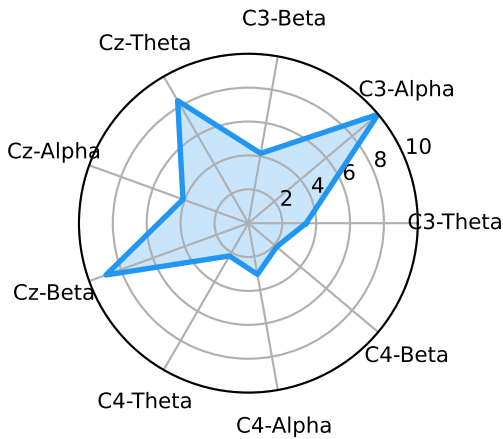
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

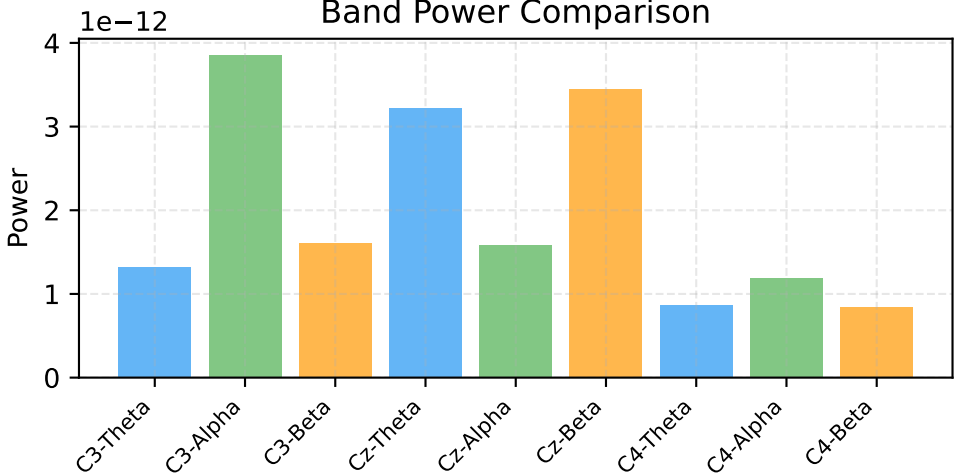
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 2, LEFT State

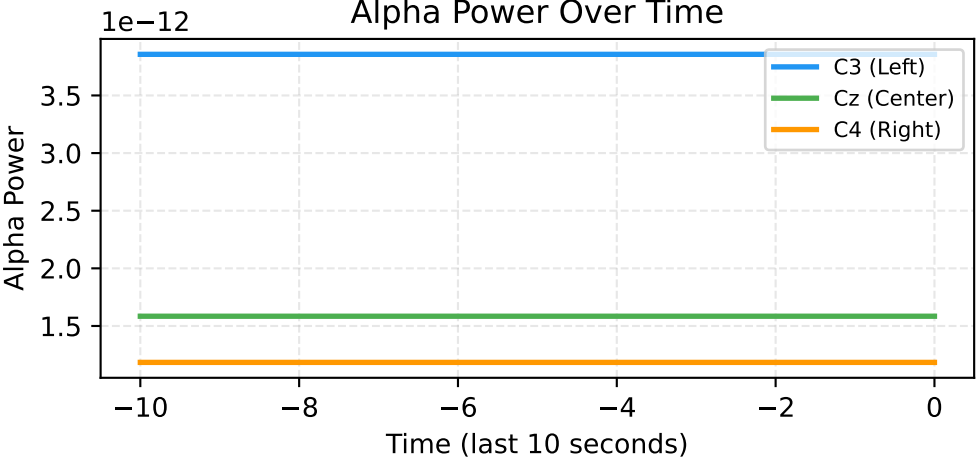
EEG Band Power Distribution



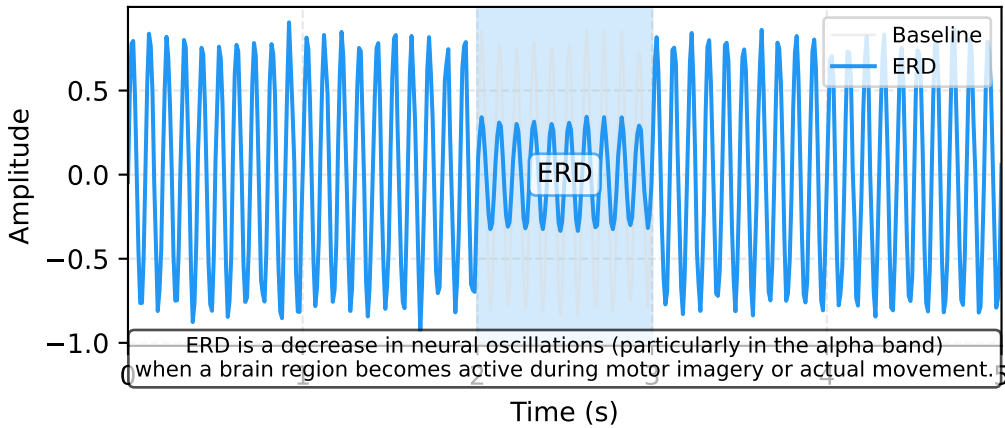
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



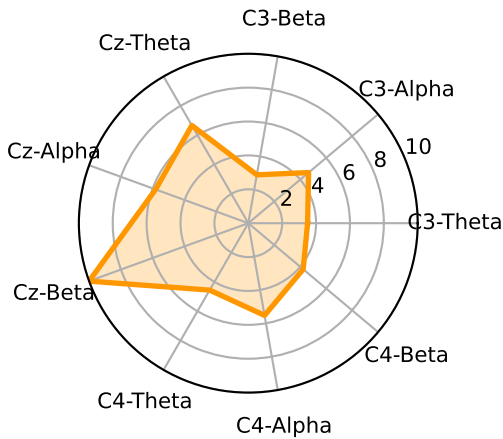
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

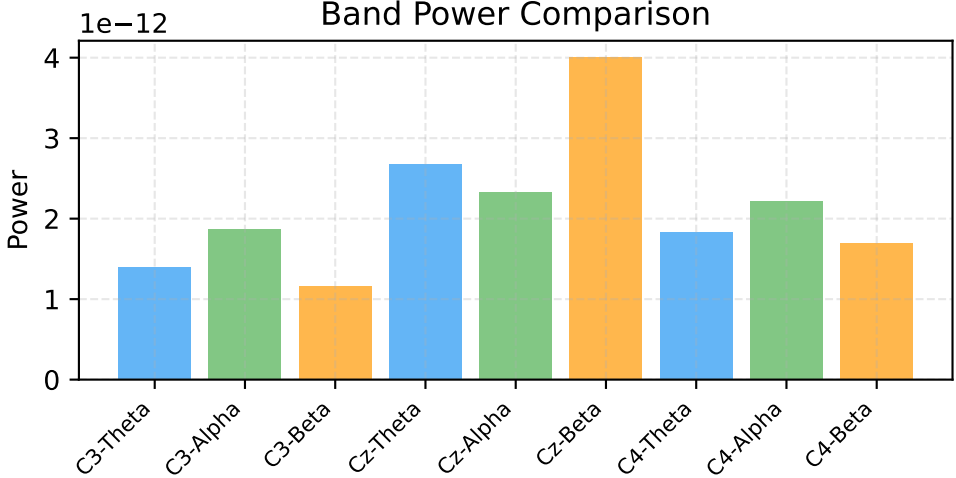
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 2, RIGHT State

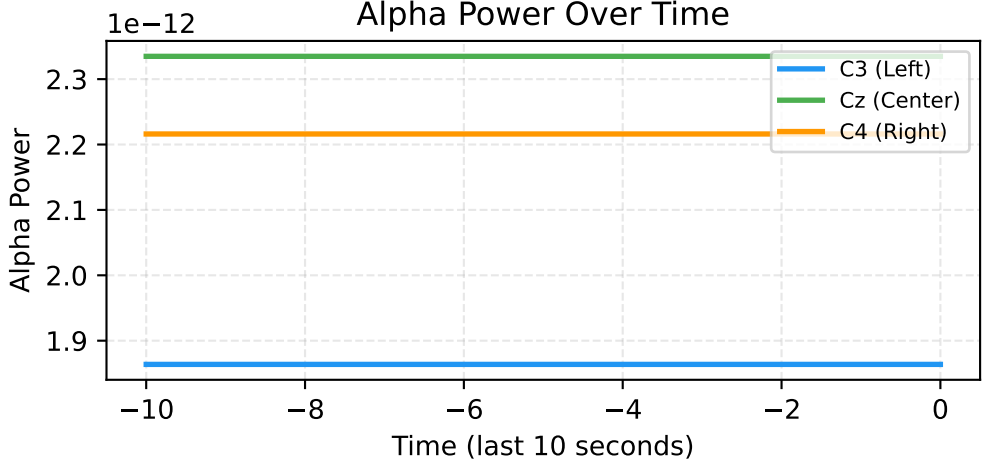
EEG Band Power Distribution



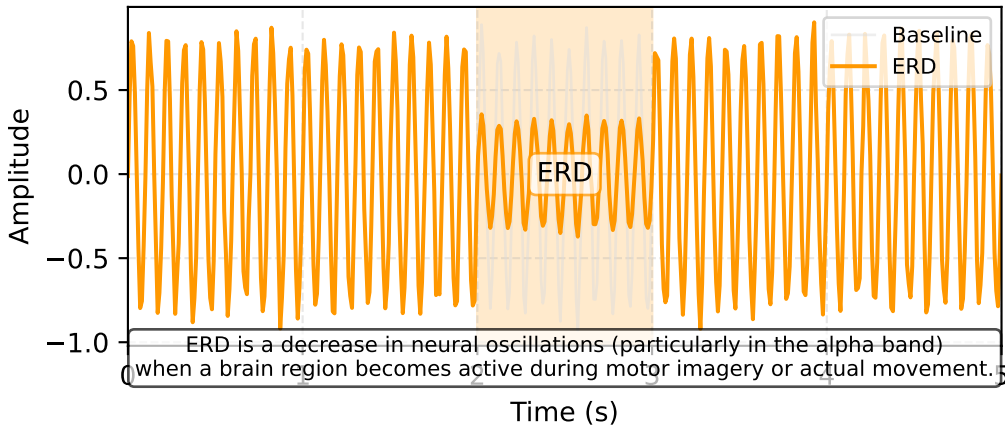
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



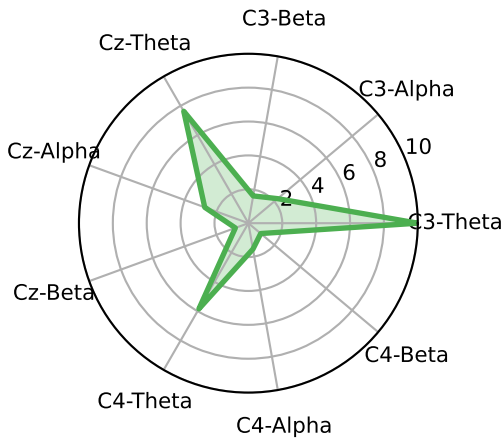
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

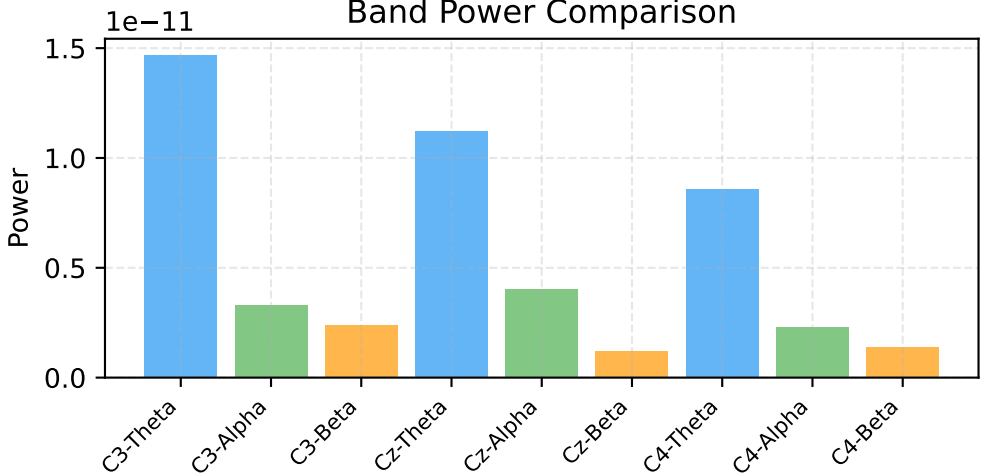
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 3, REST State

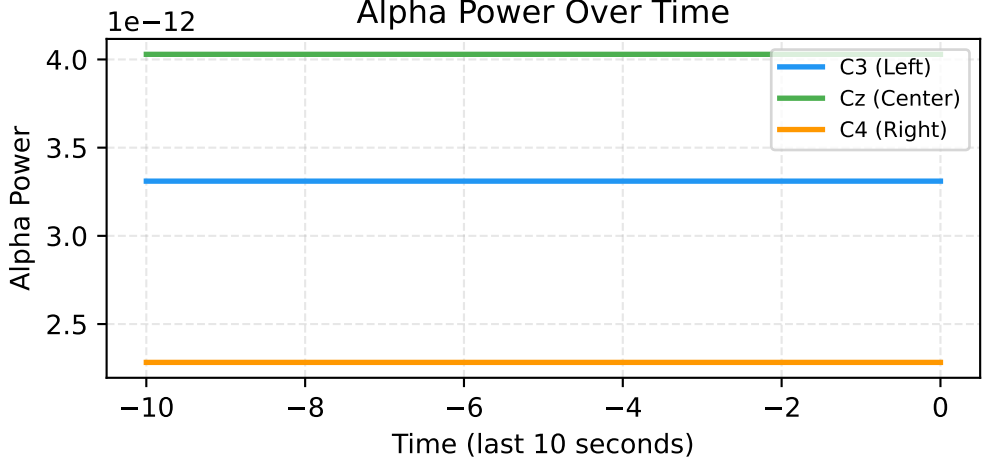
EEG Band Power Distribution



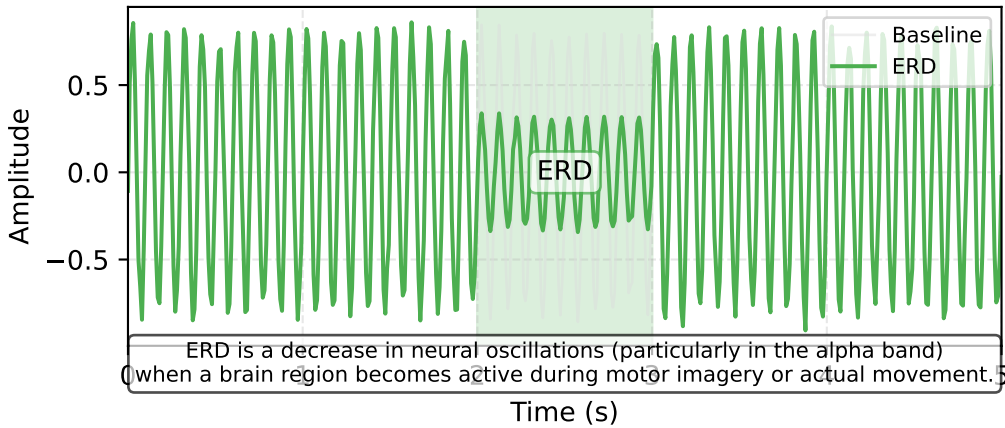
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



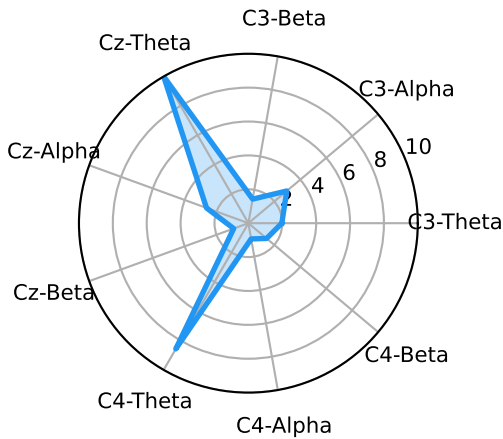
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

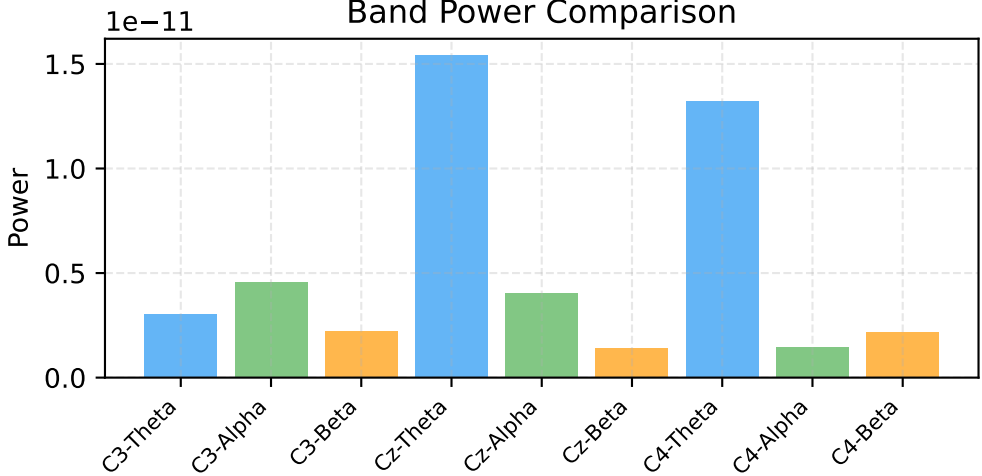
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 3, LEFT State

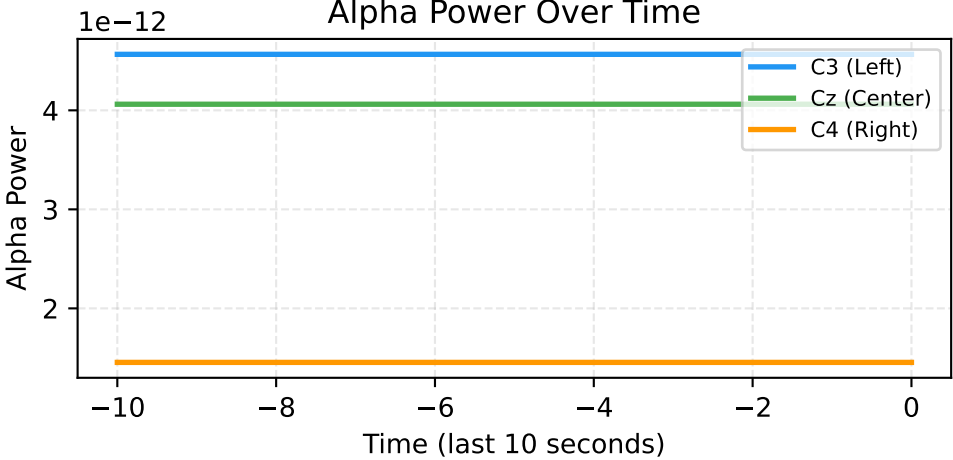
EEG Band Power Distribution



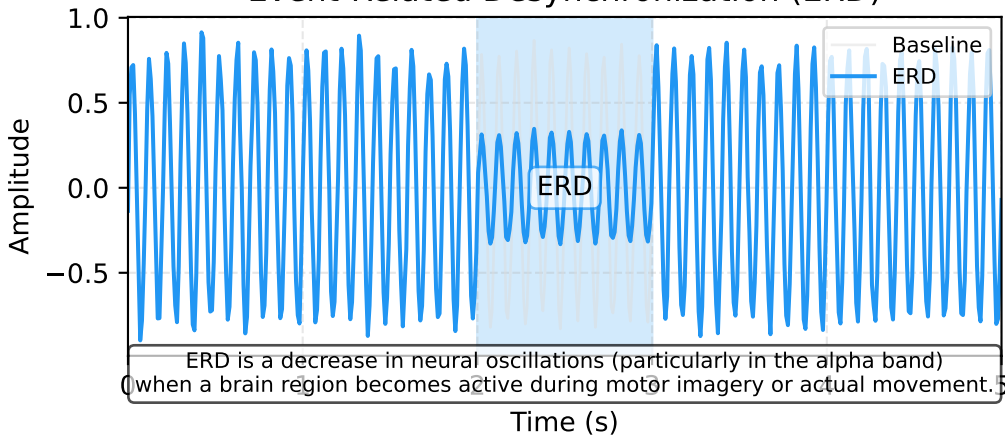
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



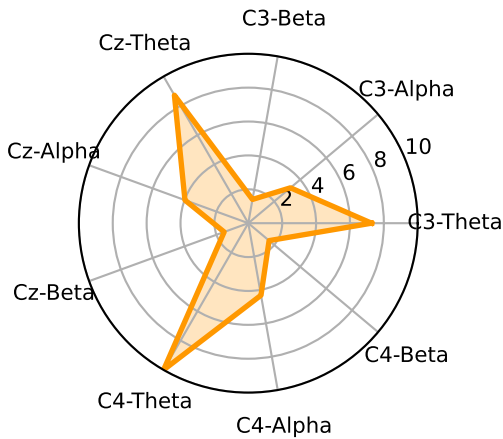
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

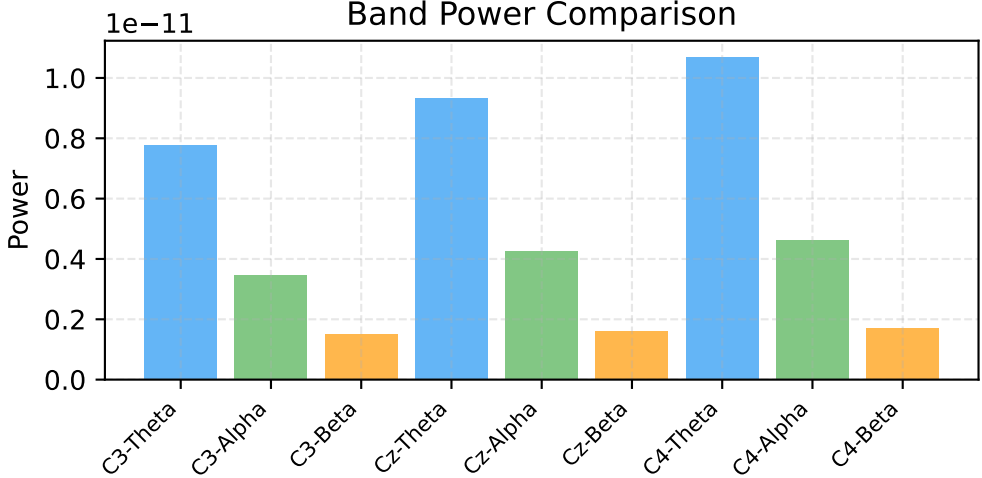
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 3, RIGHT State

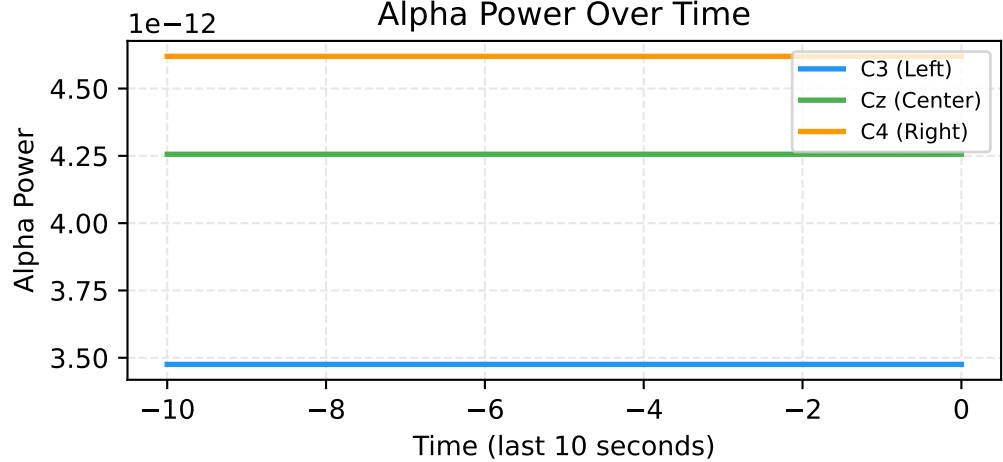
EEG Band Power Distribution



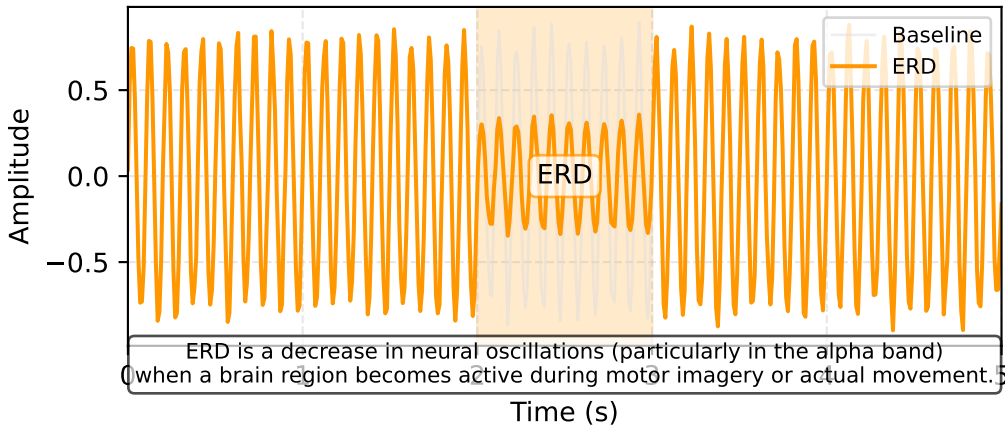
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



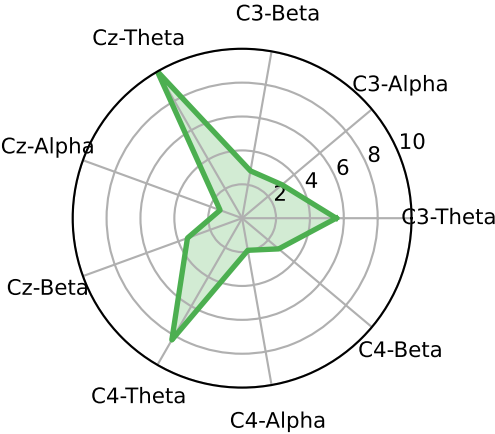
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

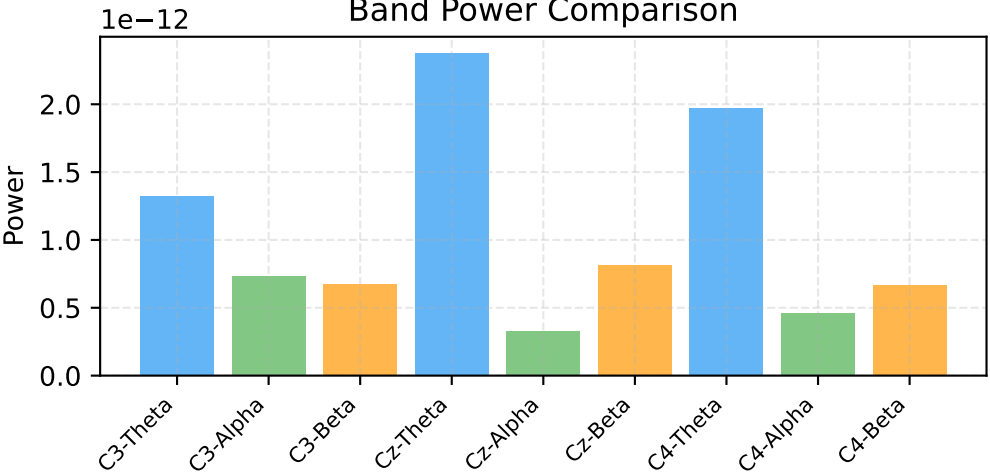
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 4, REST State

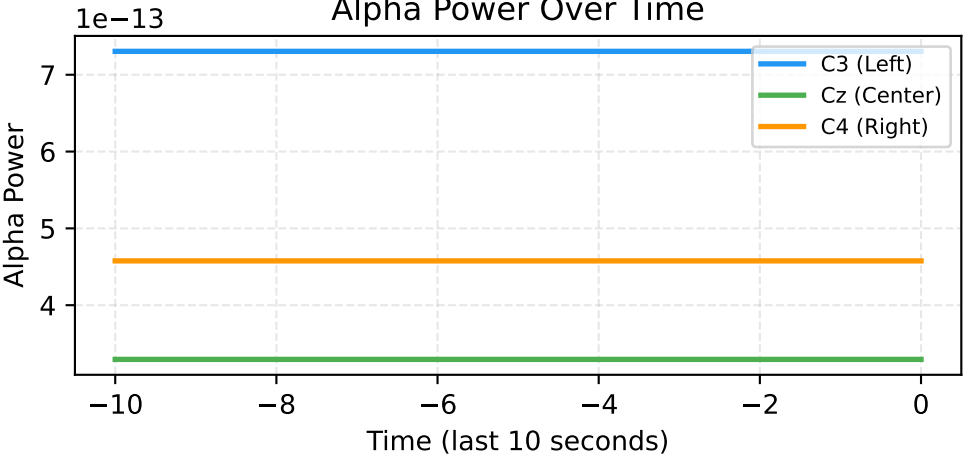
EEG Band Power Distribution



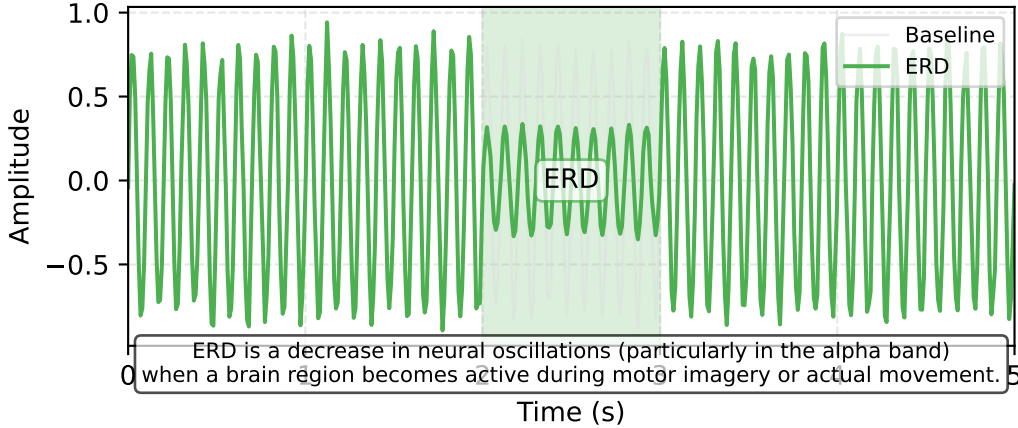
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



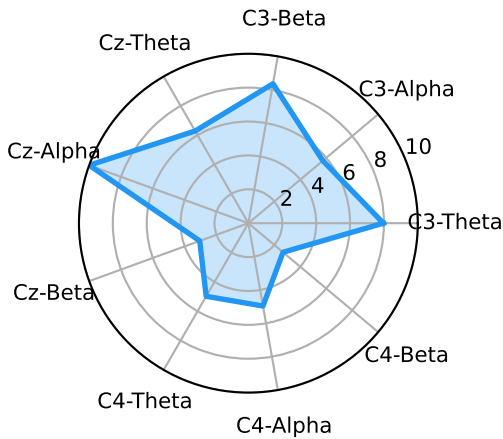
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

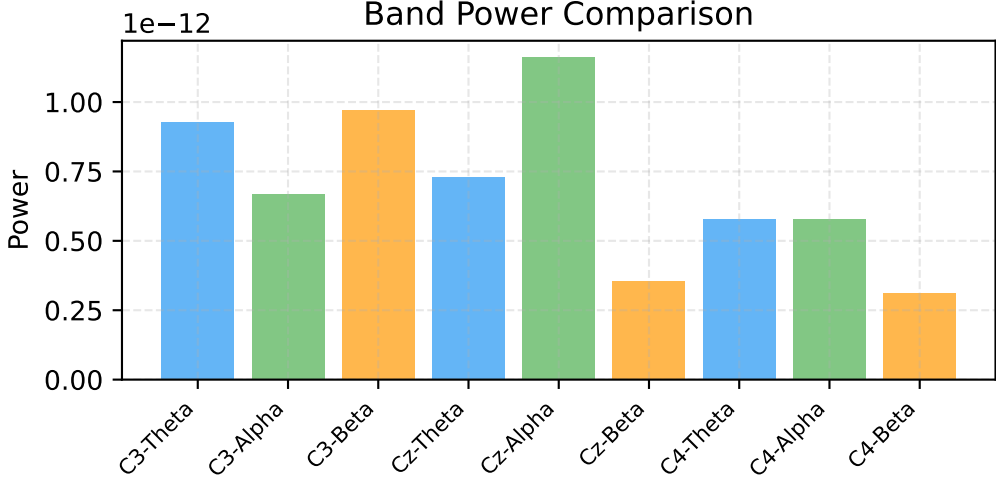
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 4, LEFT State

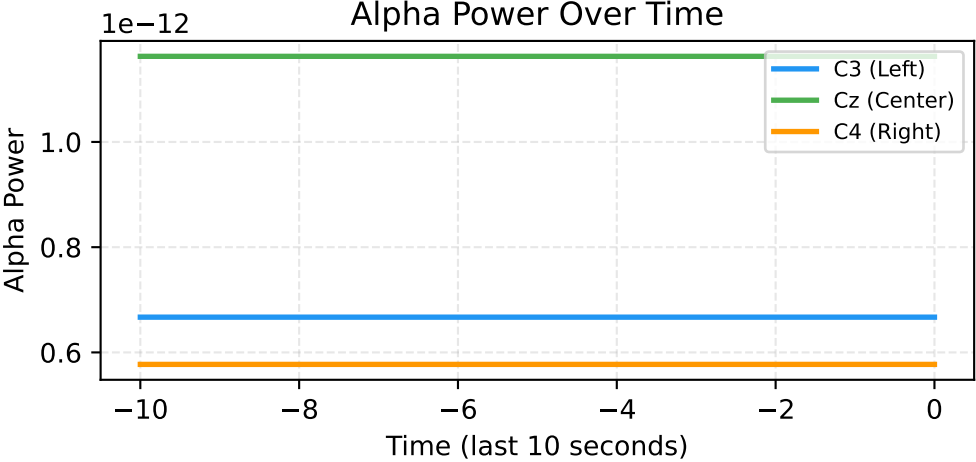
EEG Band Power Distribution



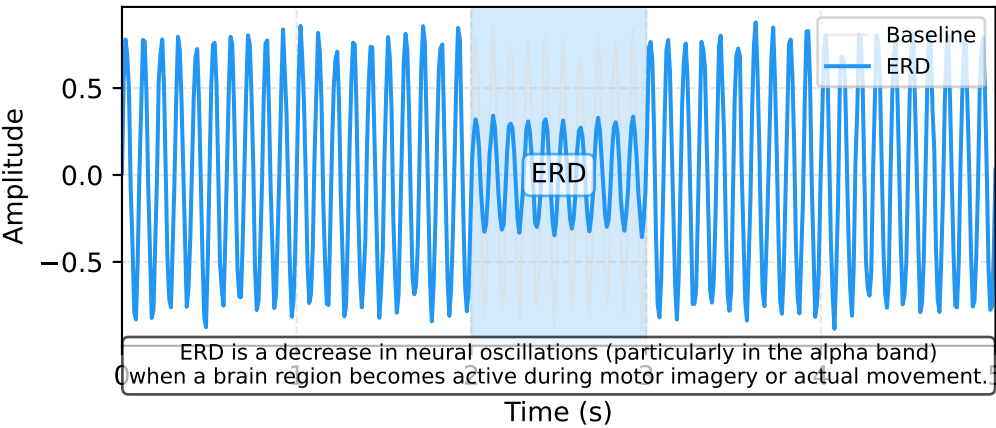
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



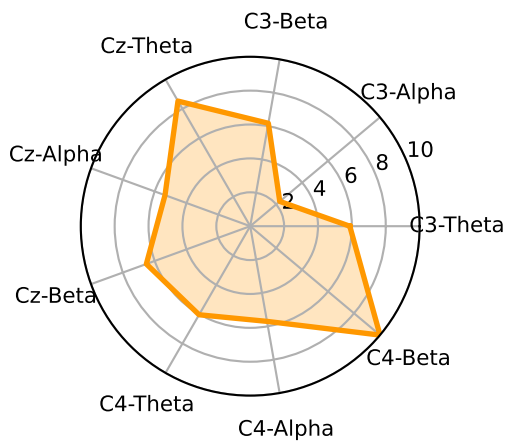
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

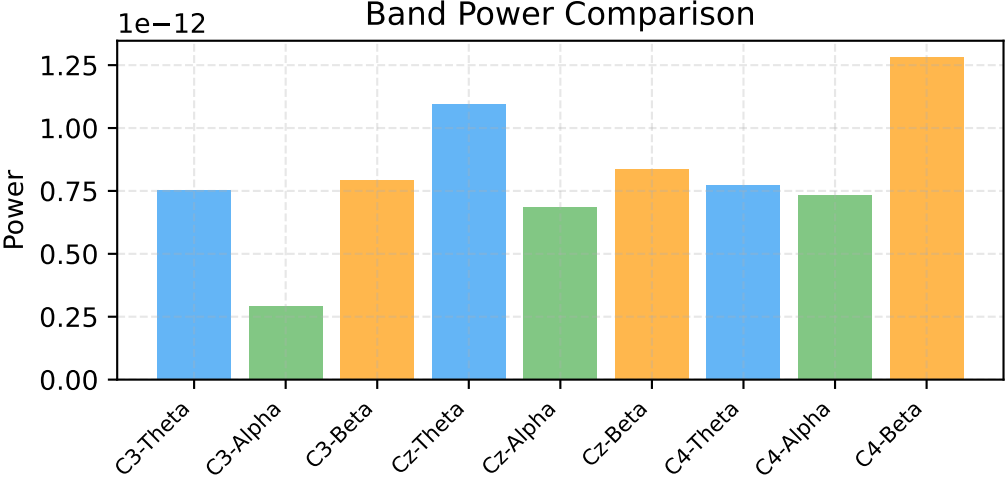
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 4, RIGHT State

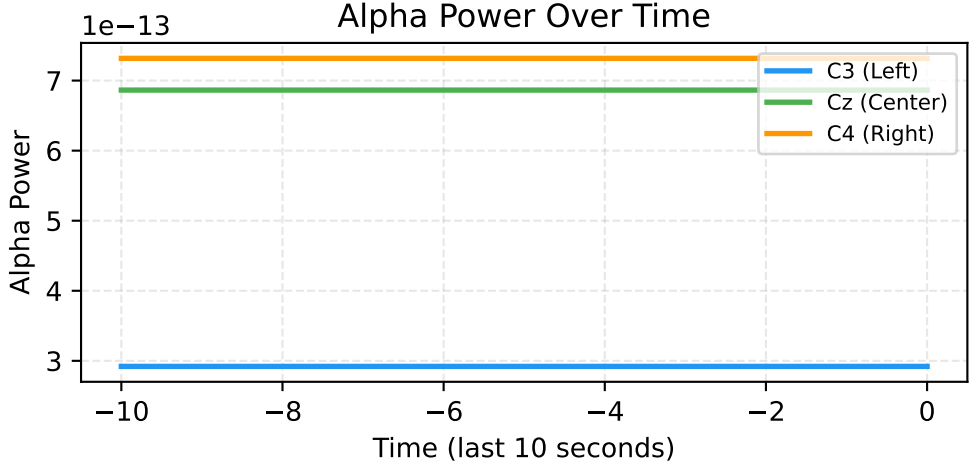
EEG Band Power Distribution



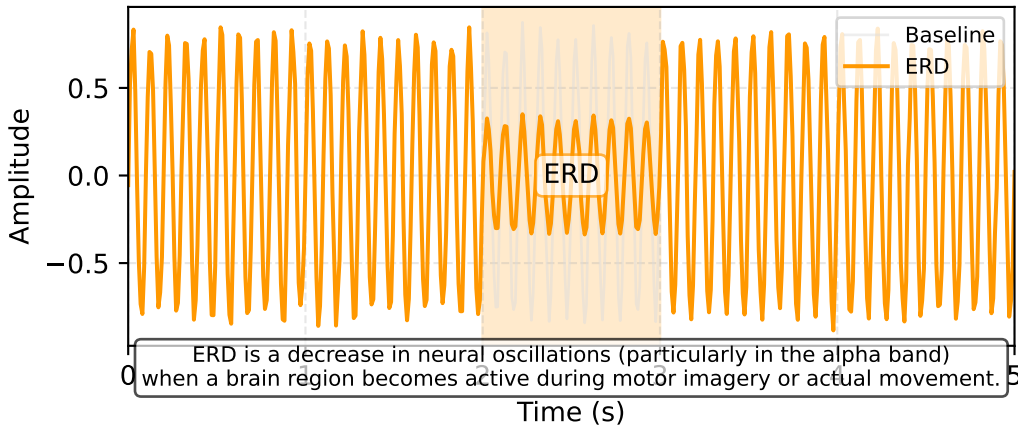
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



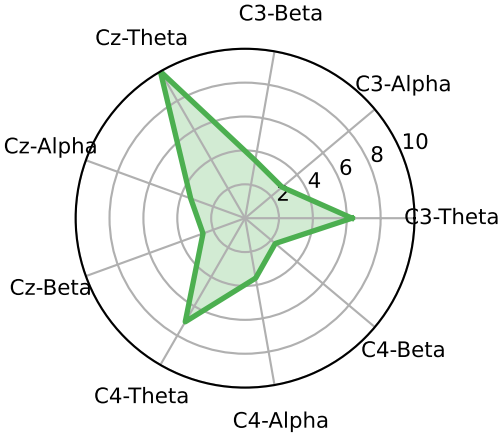
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

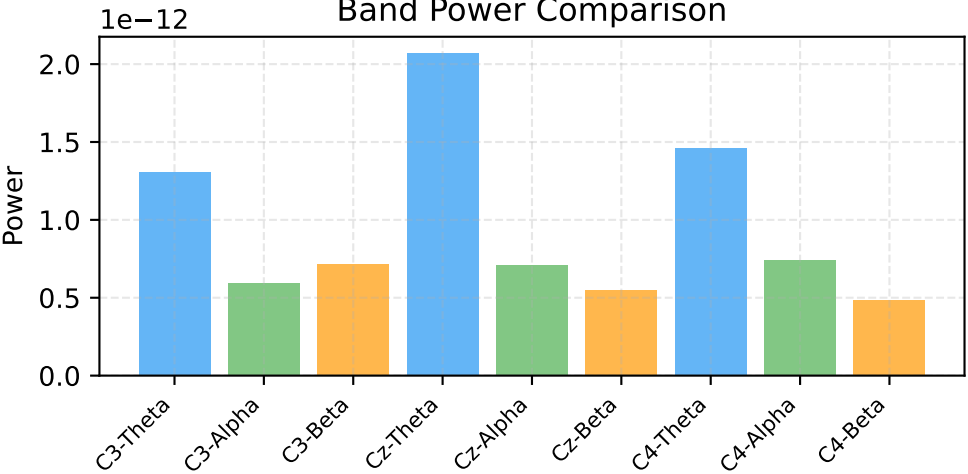
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 5, REST State

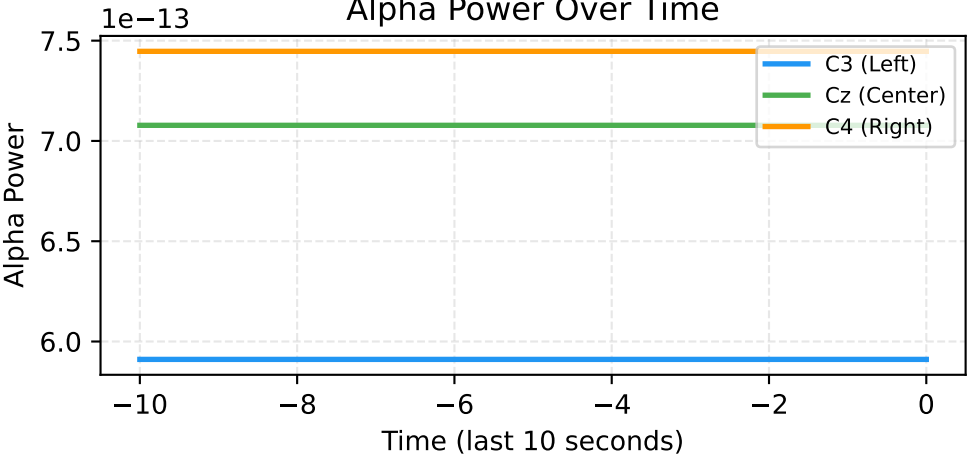
EEG Band Power Distribution



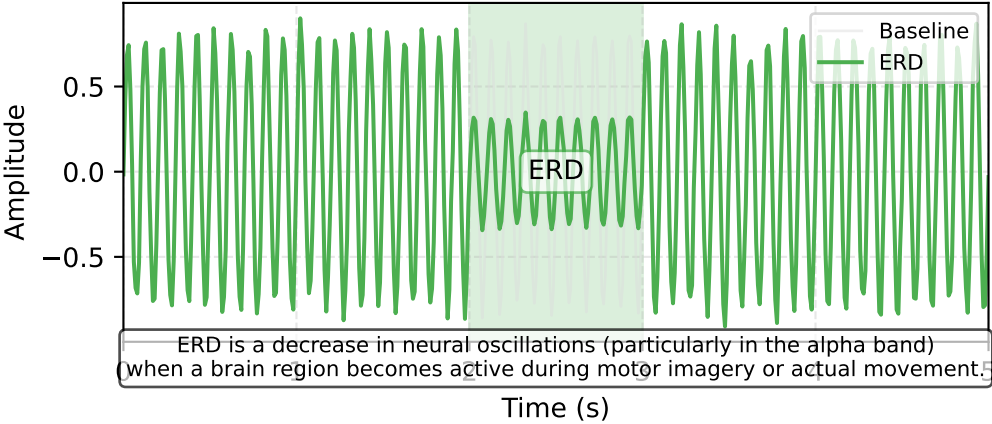
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



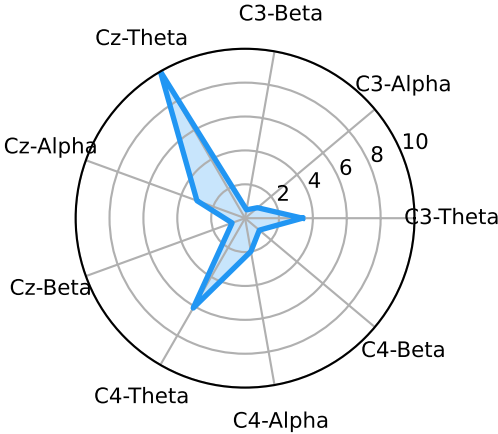
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

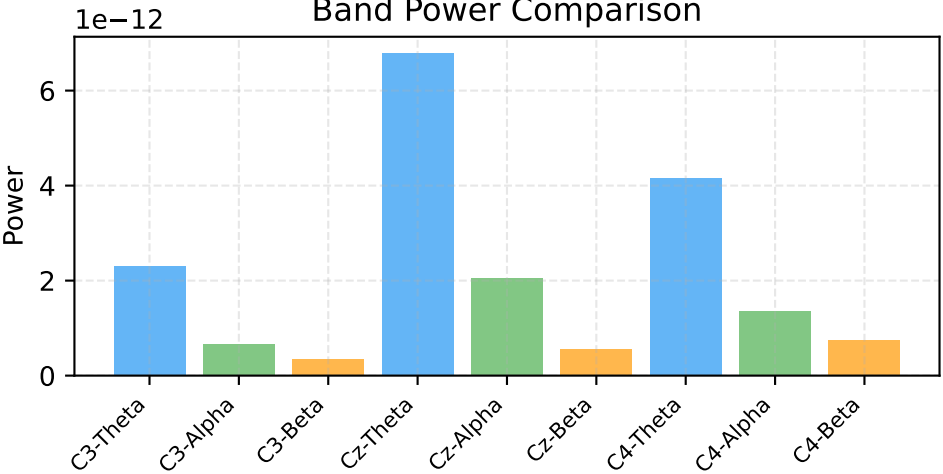
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 5, LEFT State

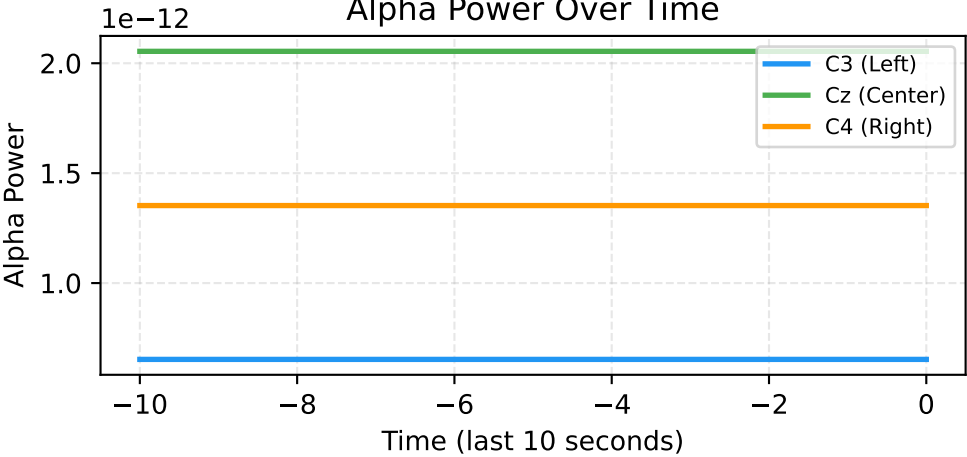
EEG Band Power Distribution



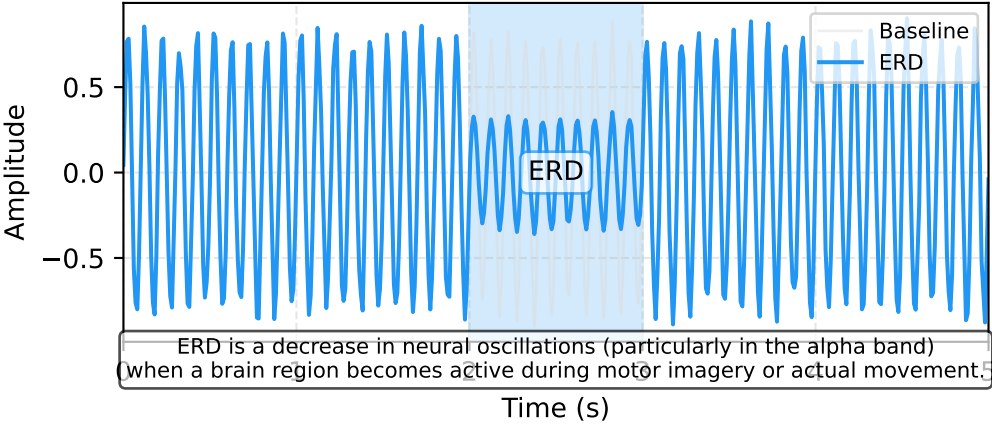
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



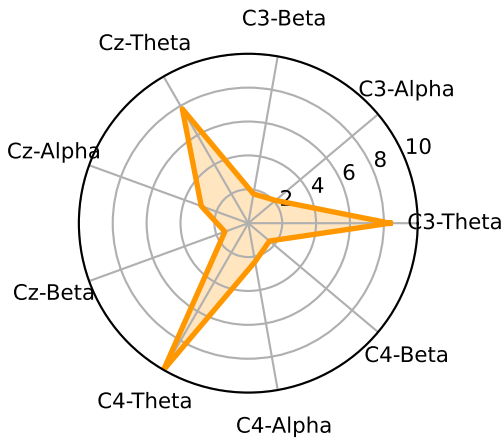
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

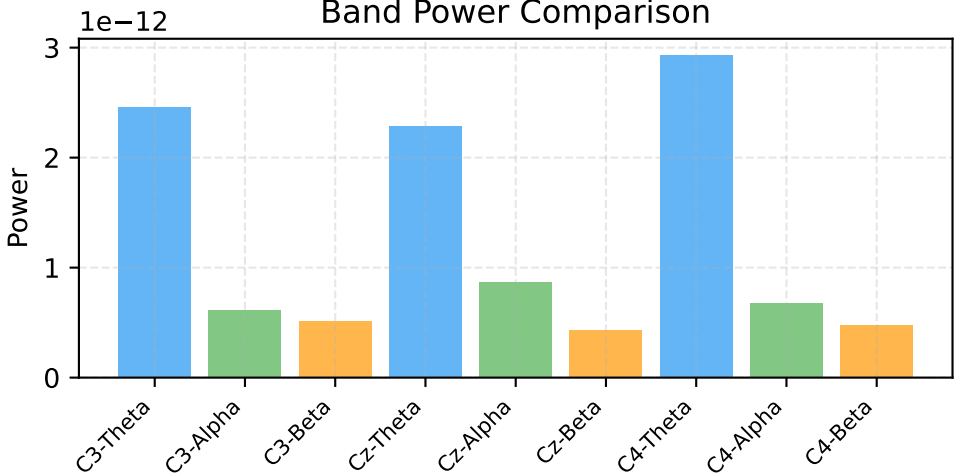
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 5, RIGHT State

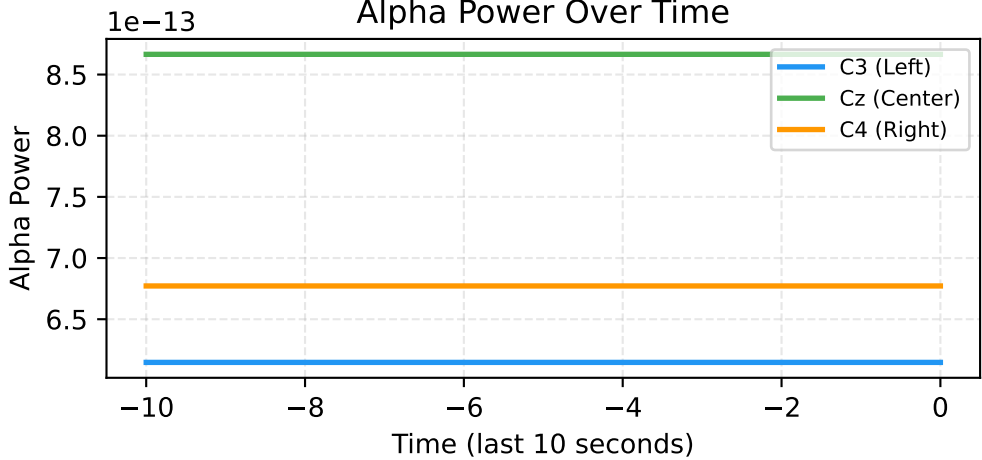
EEG Band Power Distribution



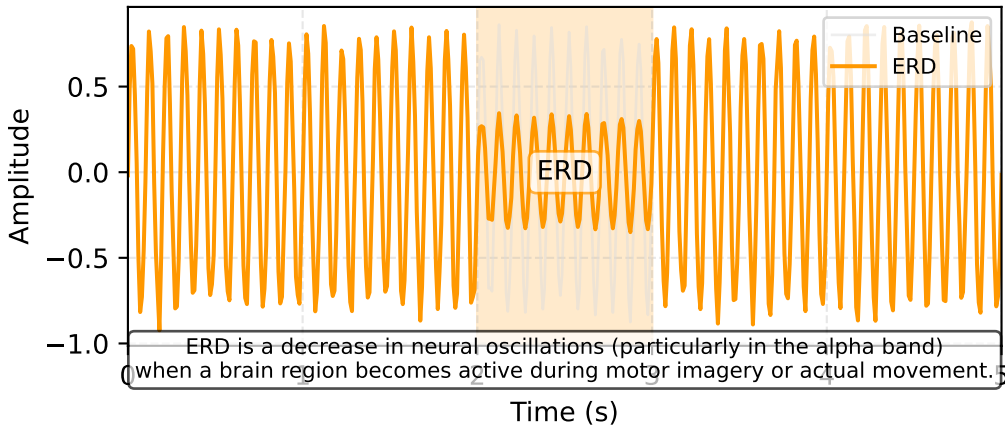
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



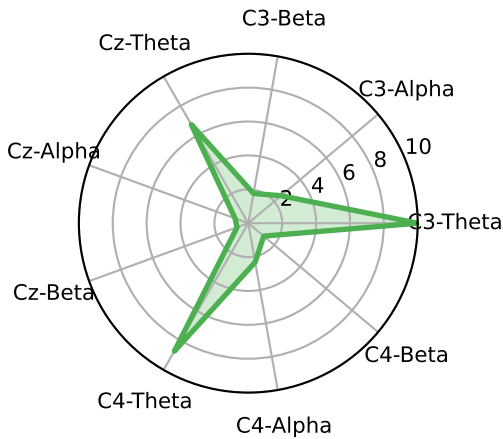
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

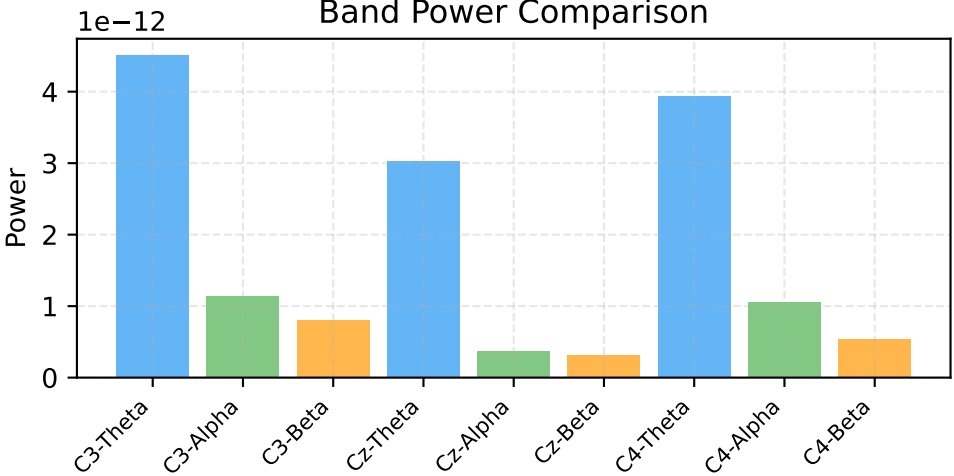
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 6, REST State

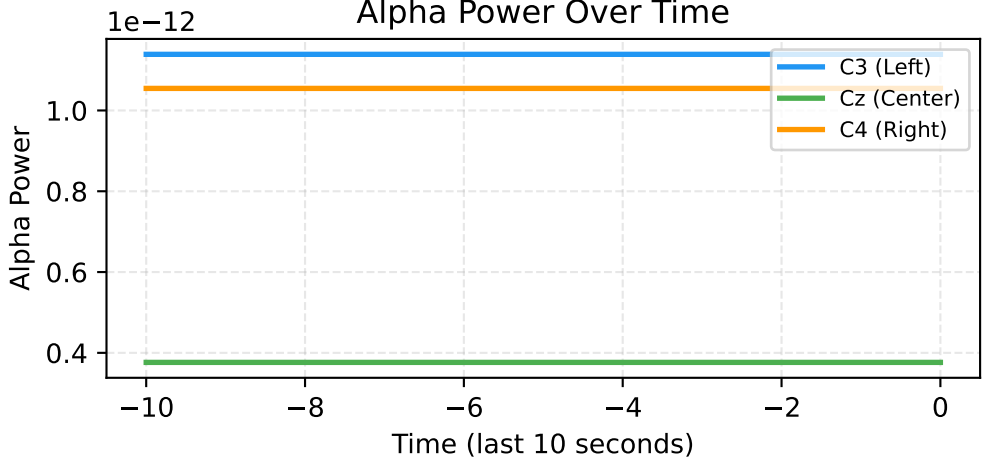
EEG Band Power Distribution



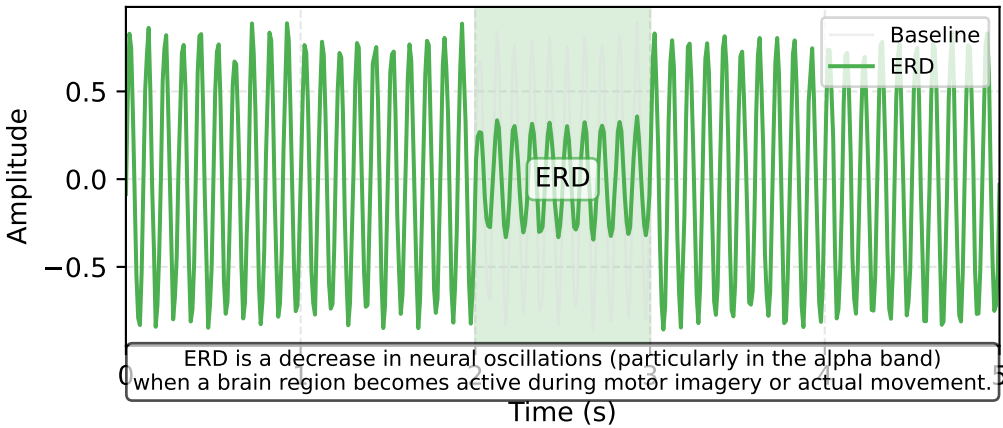
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



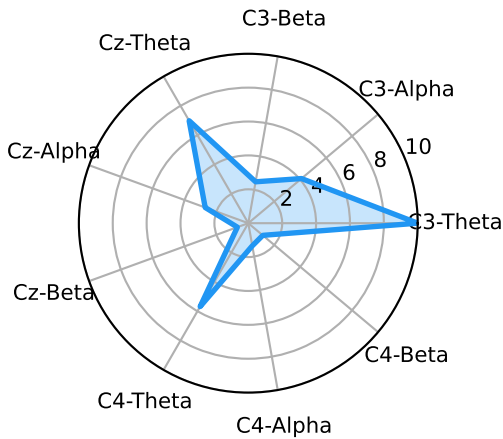
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

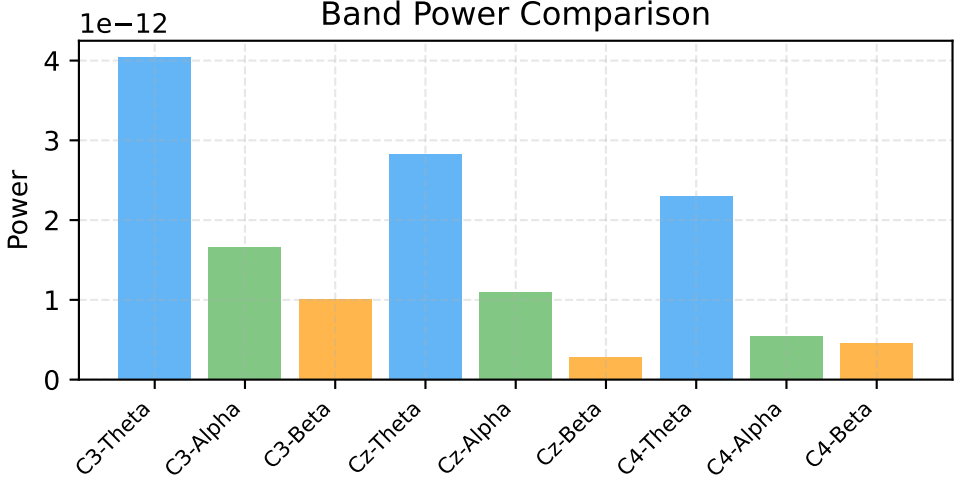
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 6, LEFT State

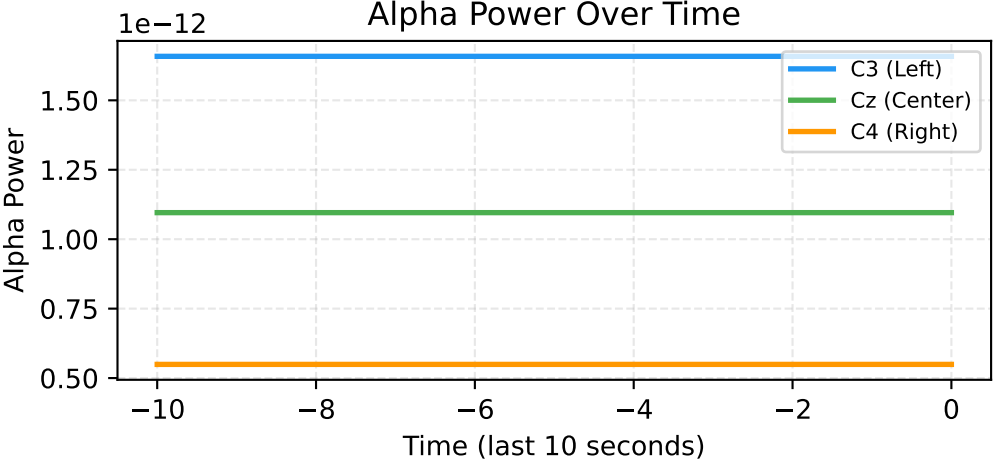
EEG Band Power Distribution



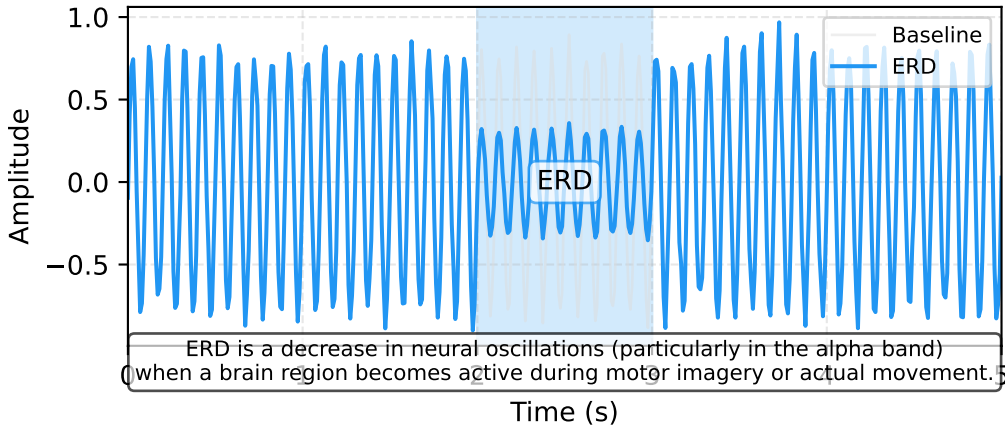
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



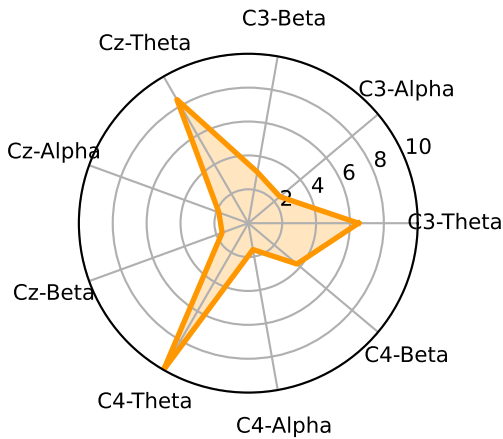
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

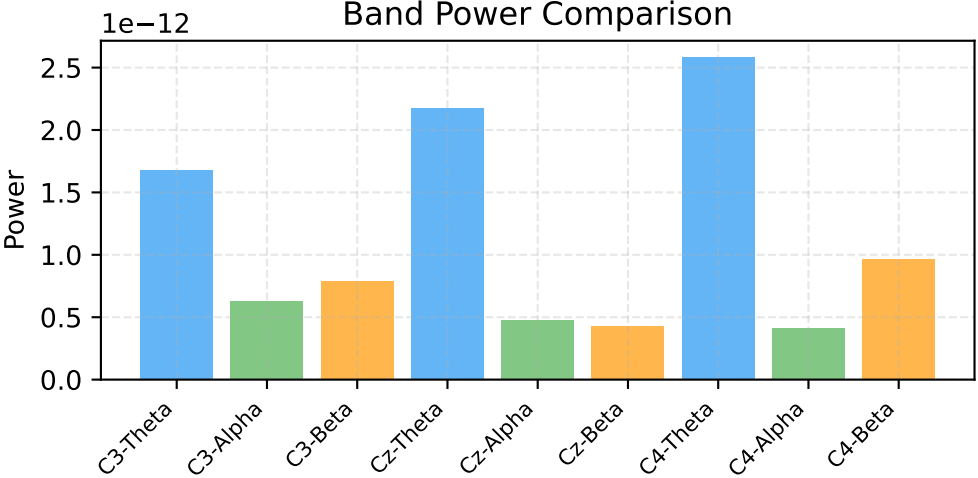
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 6, RIGHT State

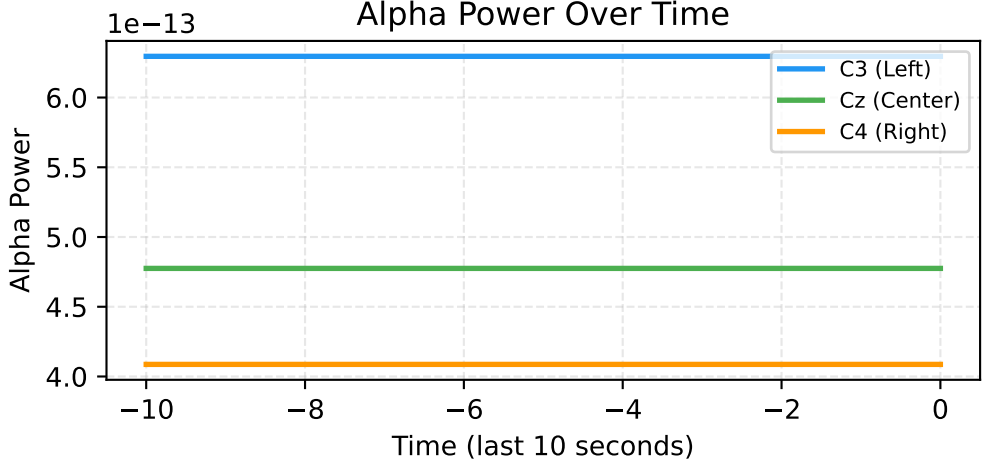
EEG Band Power Distribution



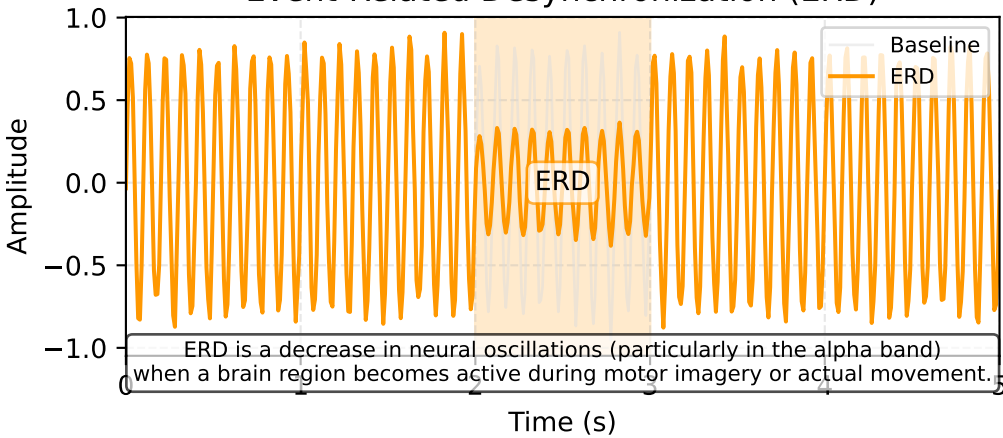
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



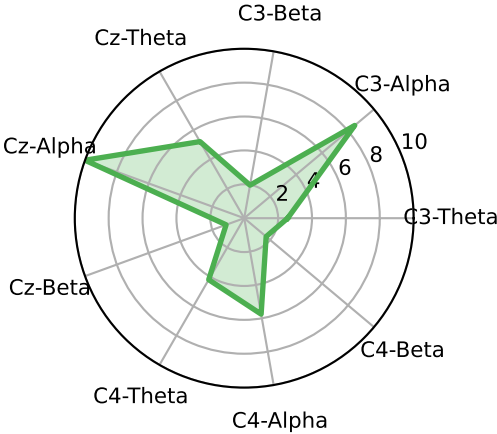
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

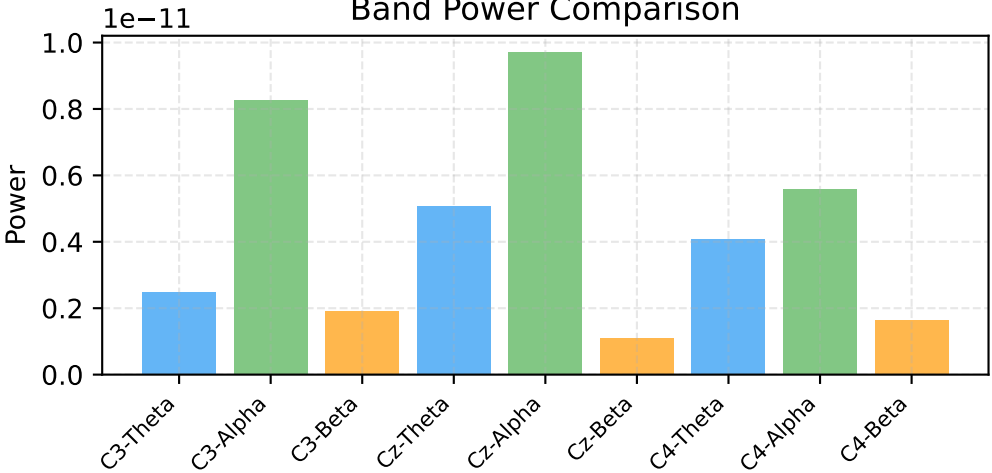
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 7, REST State

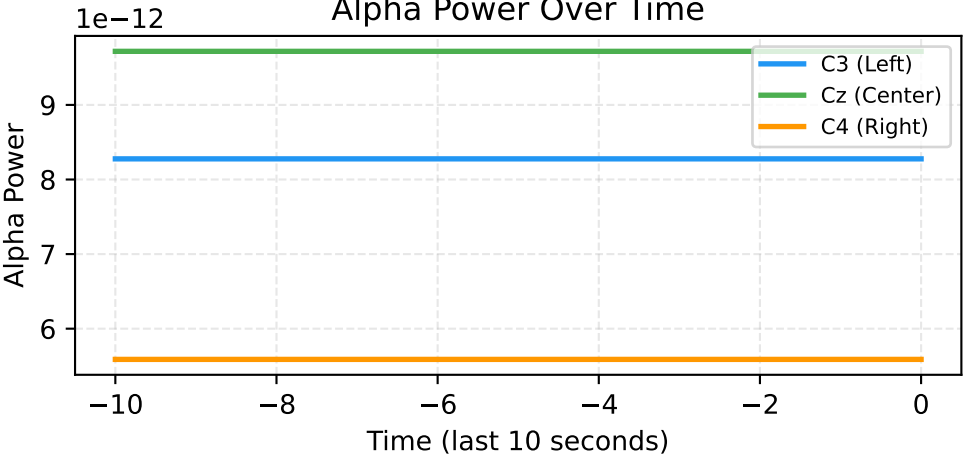
EEG Band Power Distribution



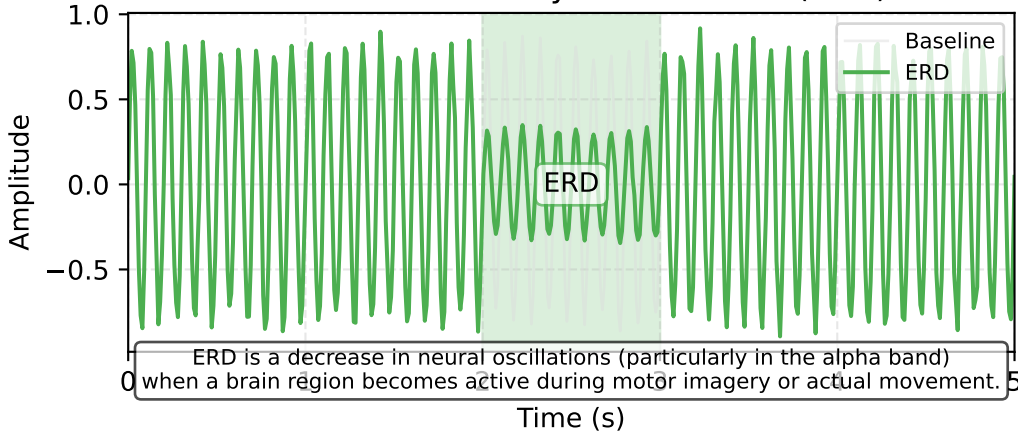
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



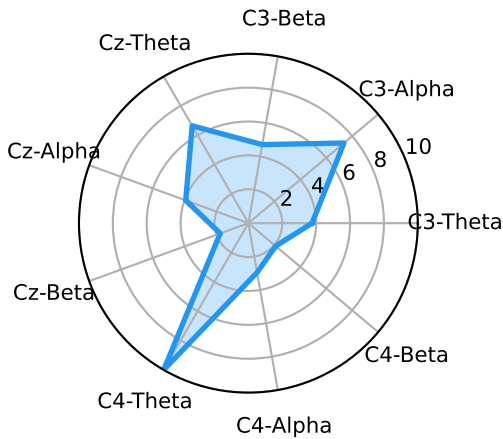
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

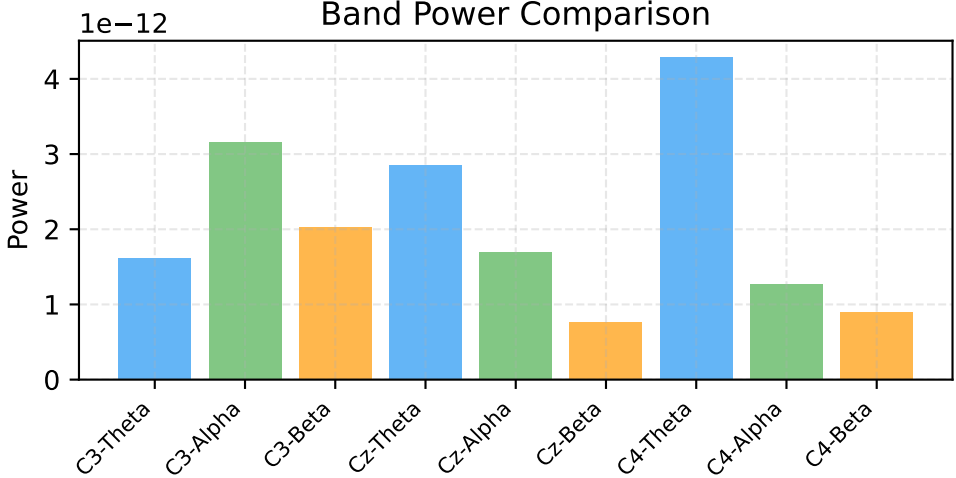
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 7, LEFT State

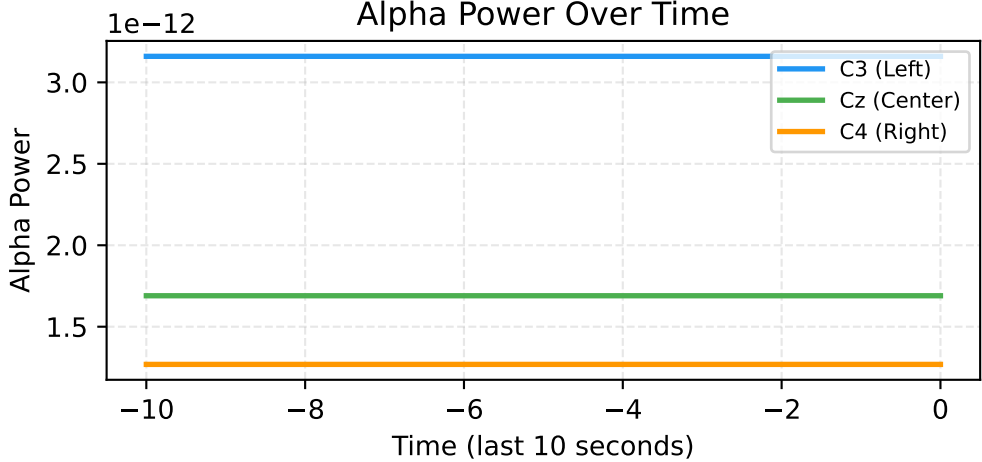
EEG Band Power Distribution



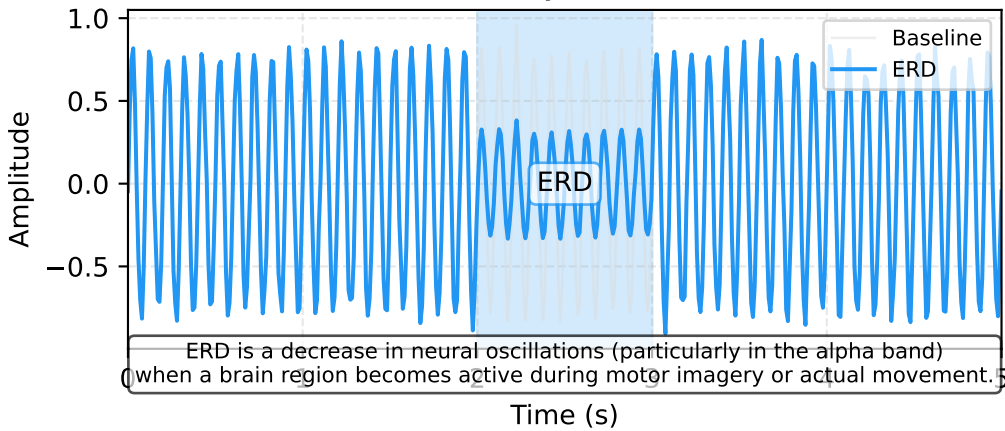
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



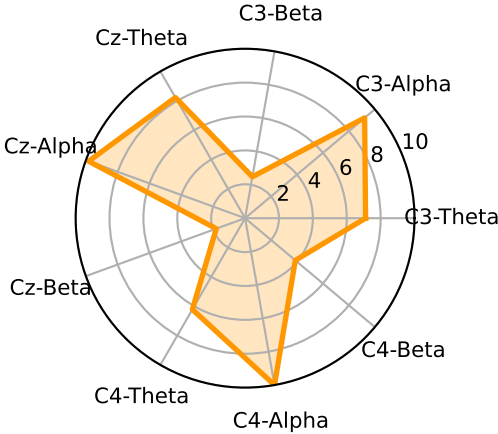
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

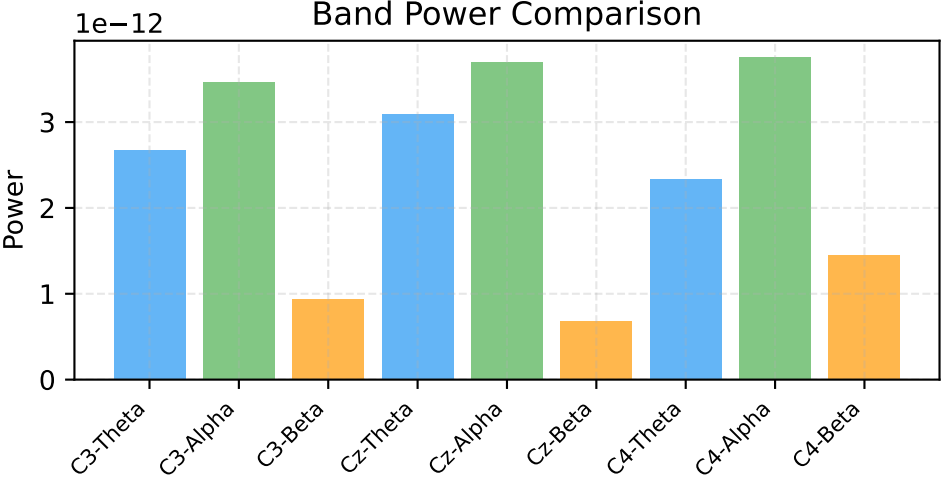
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 7, RIGHT State

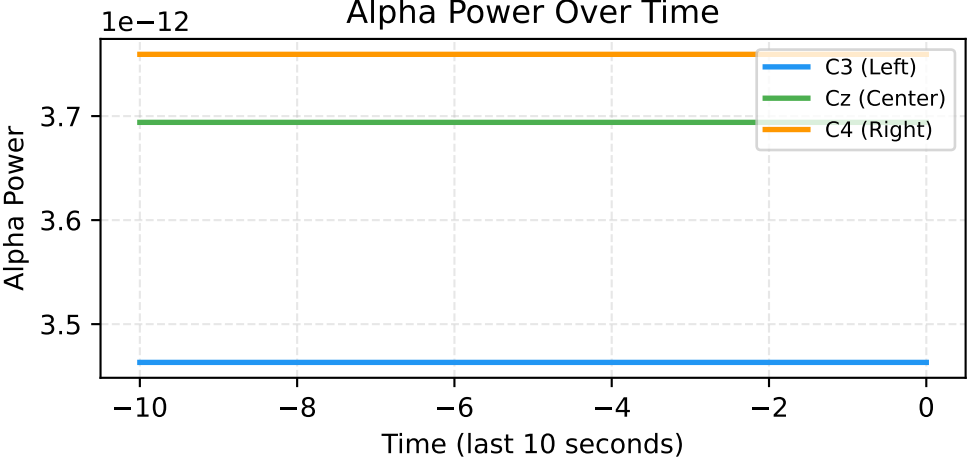
EEG Band Power Distribution



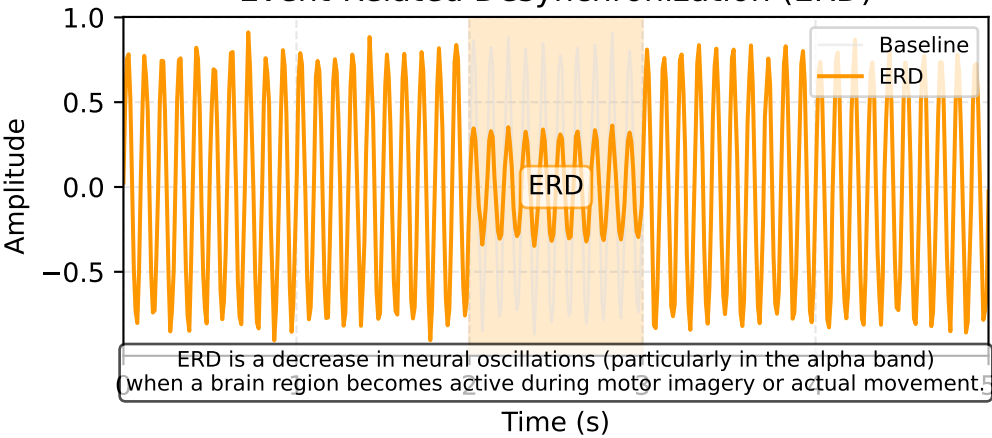
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



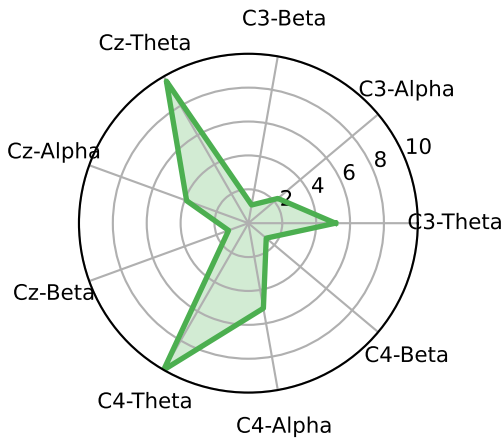
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

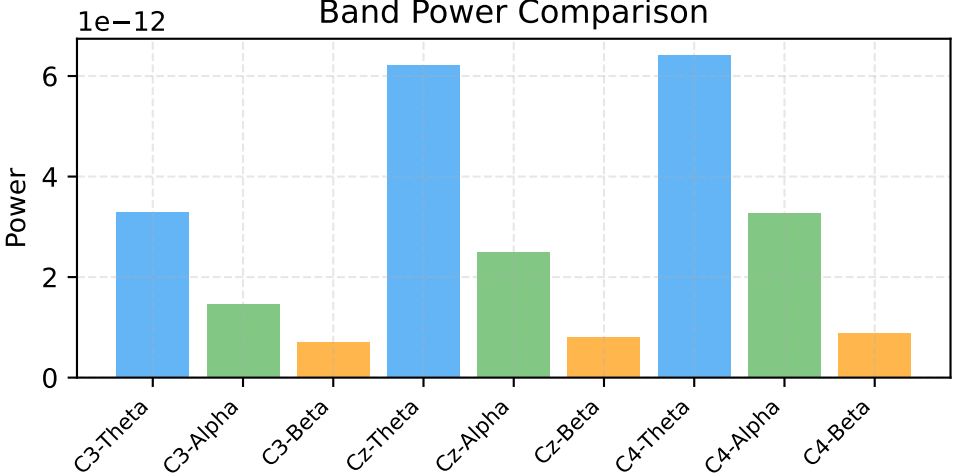
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 8, REST State

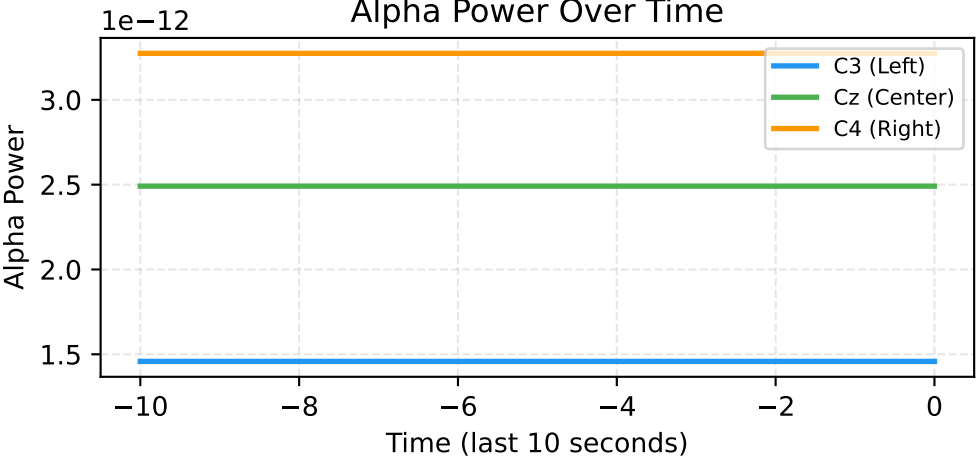
EEG Band Power Distribution



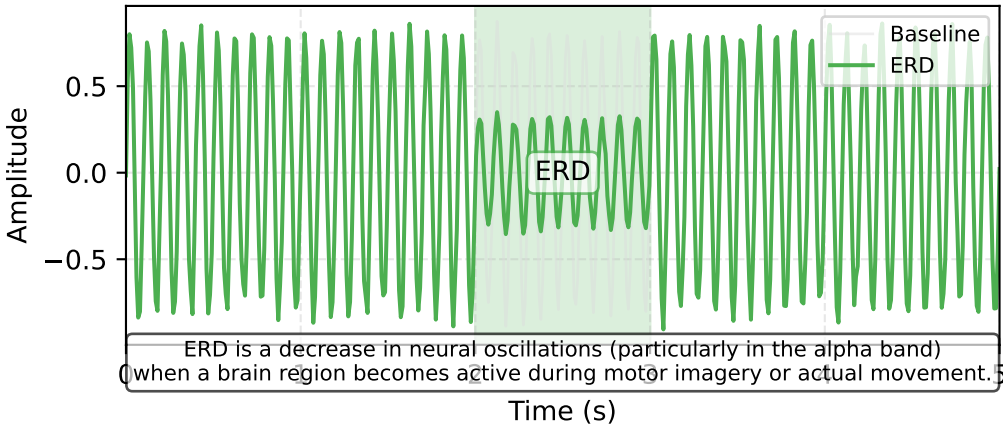
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



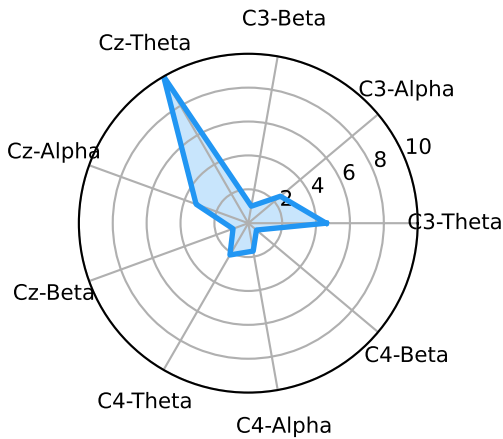
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

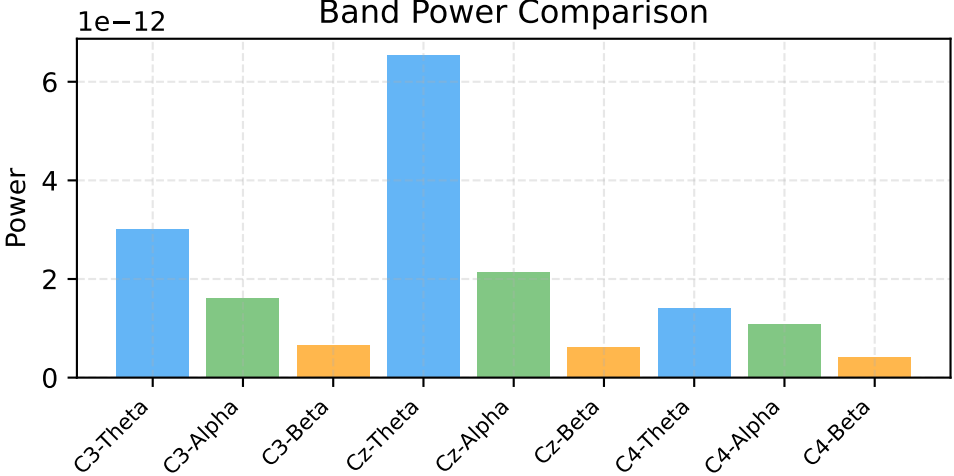
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 8, LEFT State

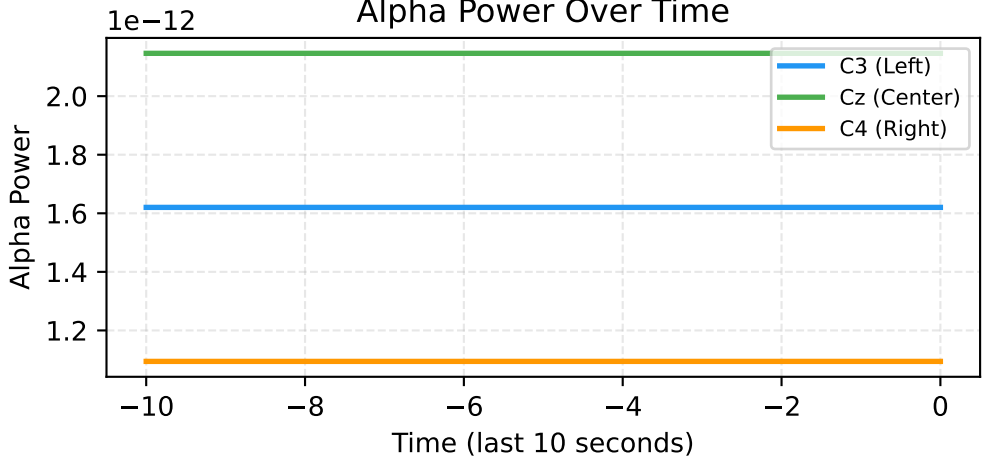
EEG Band Power Distribution



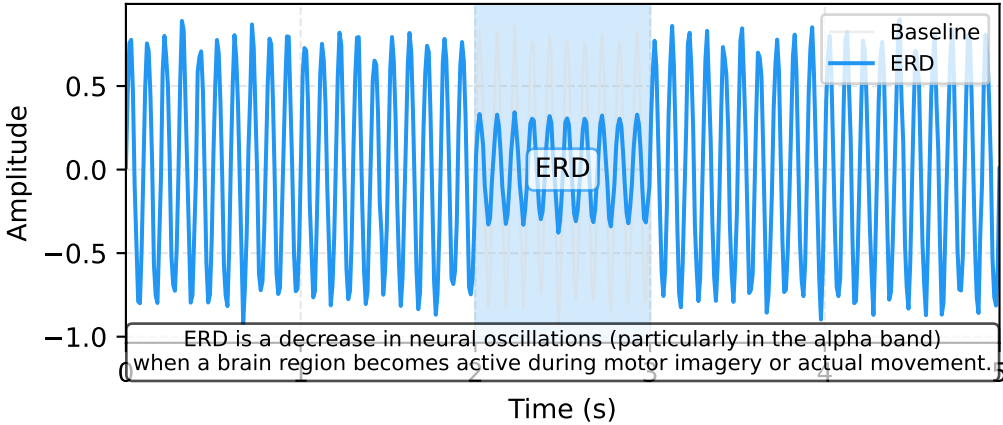
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



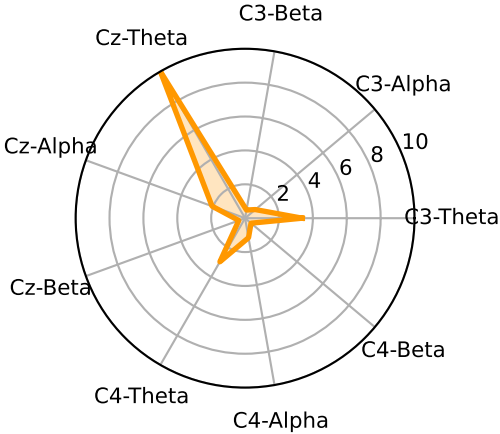
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

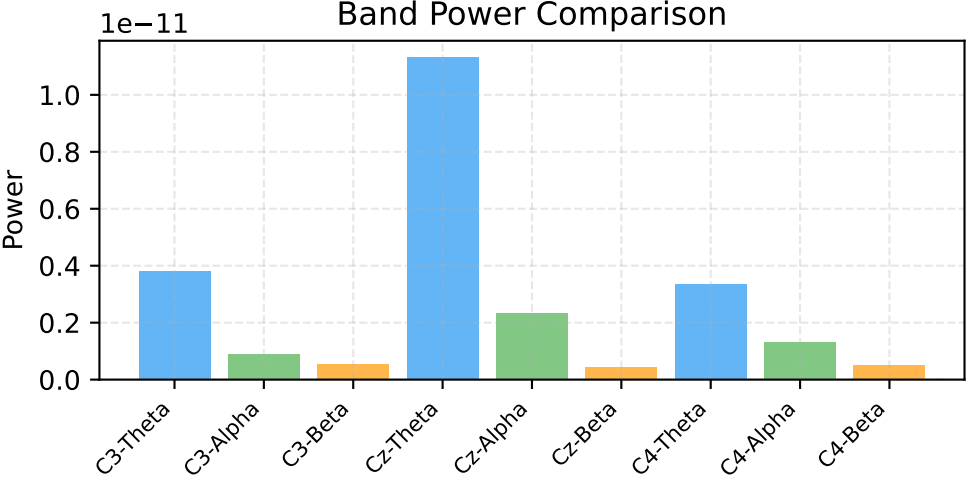
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 8, RIGHT State

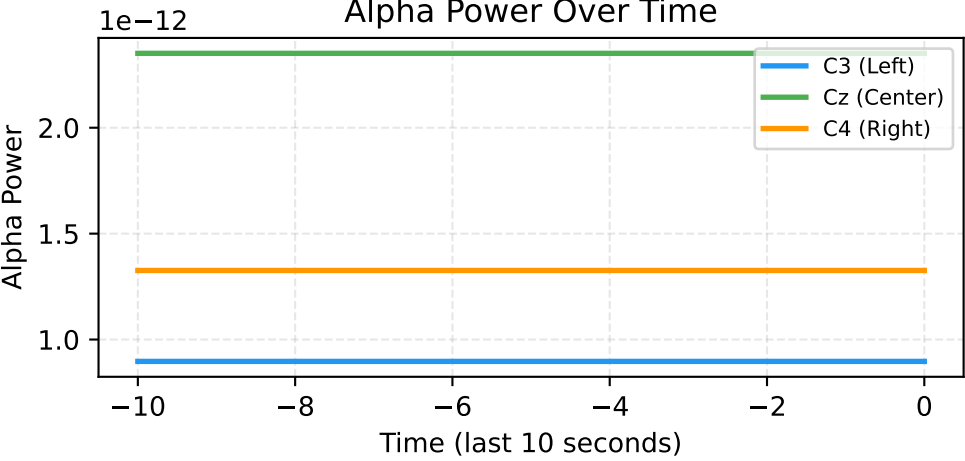
EEG Band Power Distribution



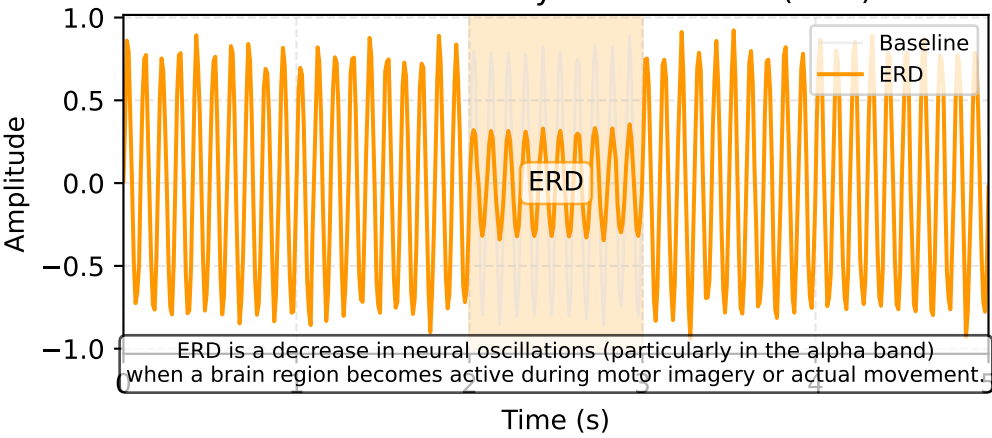
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



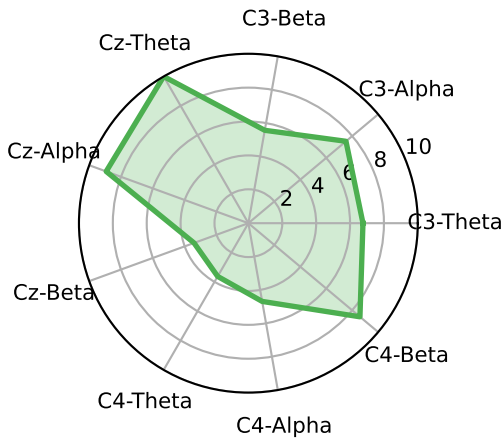
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

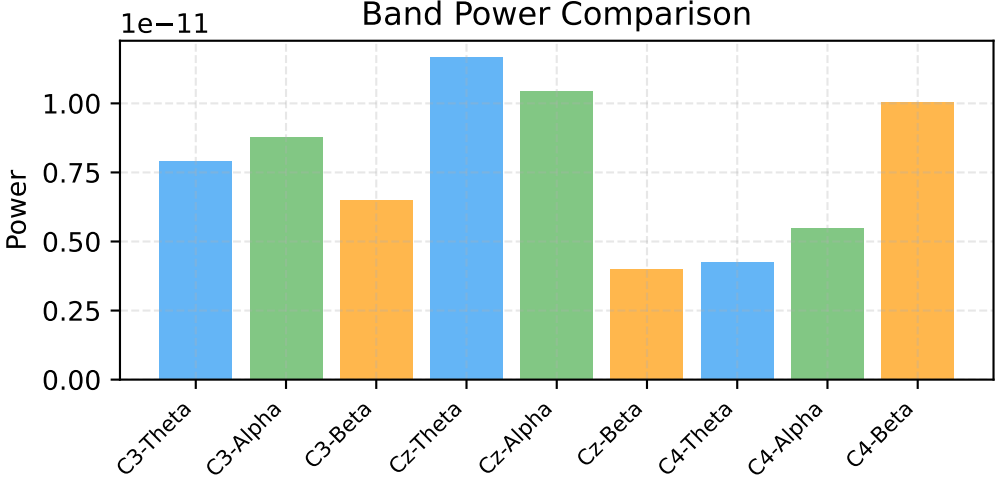
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 9, REST State

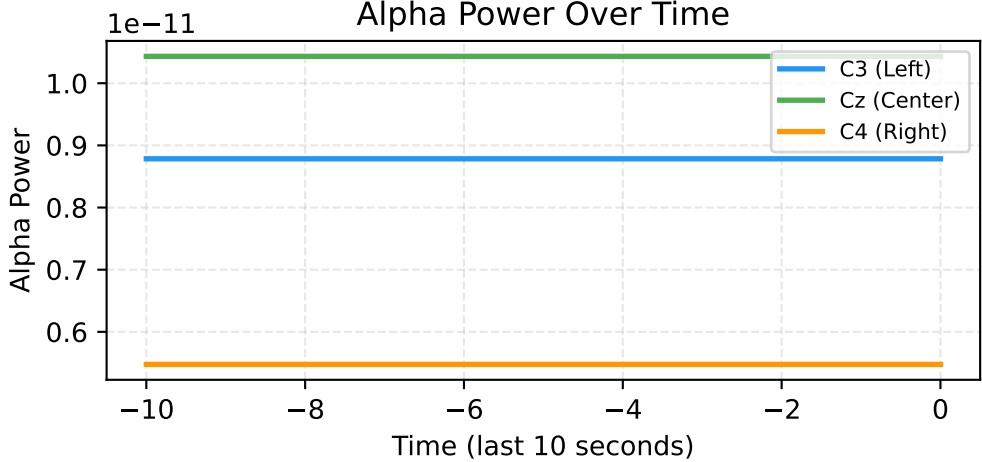
EEG Band Power Distribution



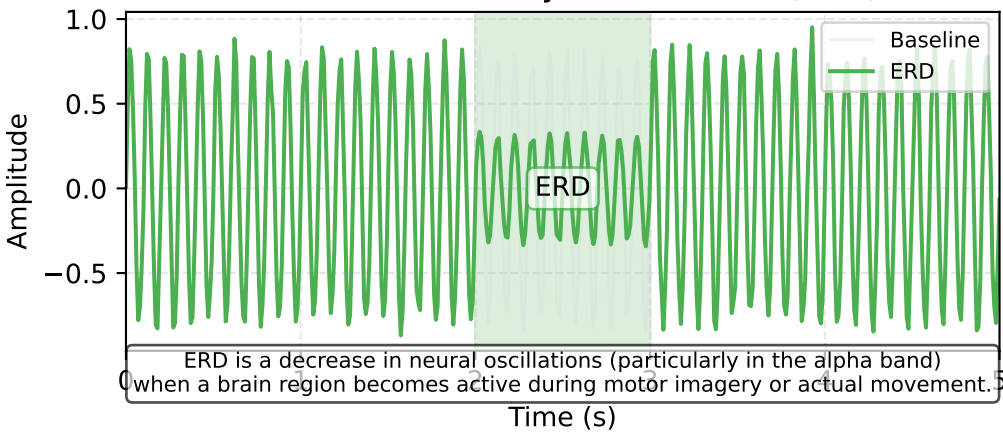
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



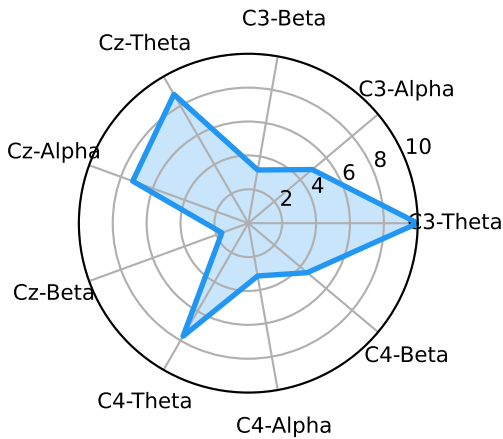
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

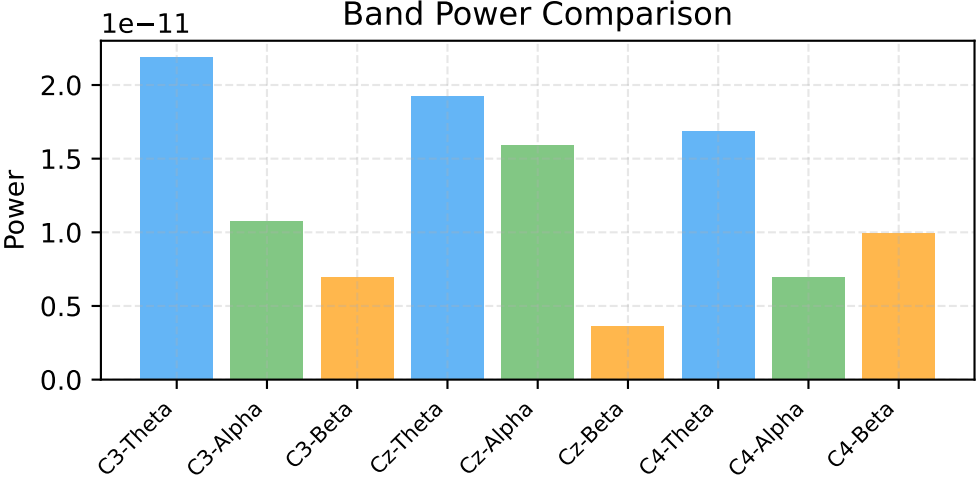
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 9, LEFT State

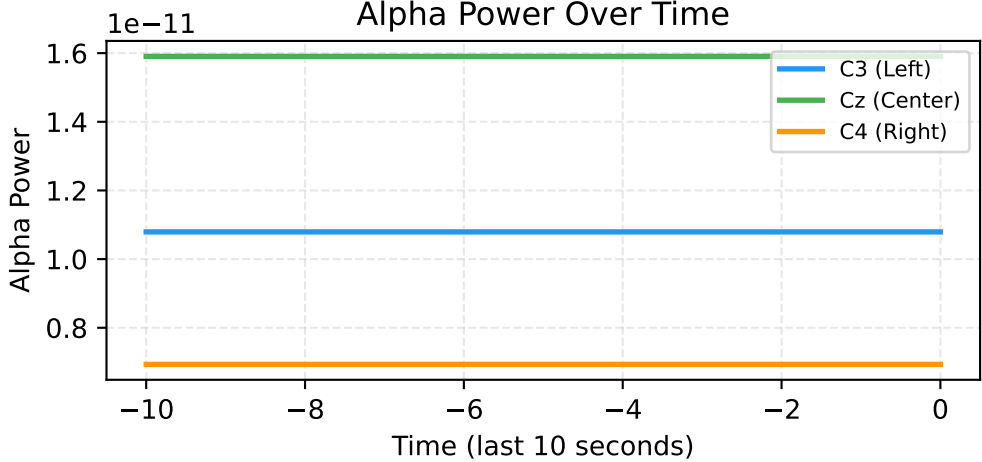
EEG Band Power Distribution



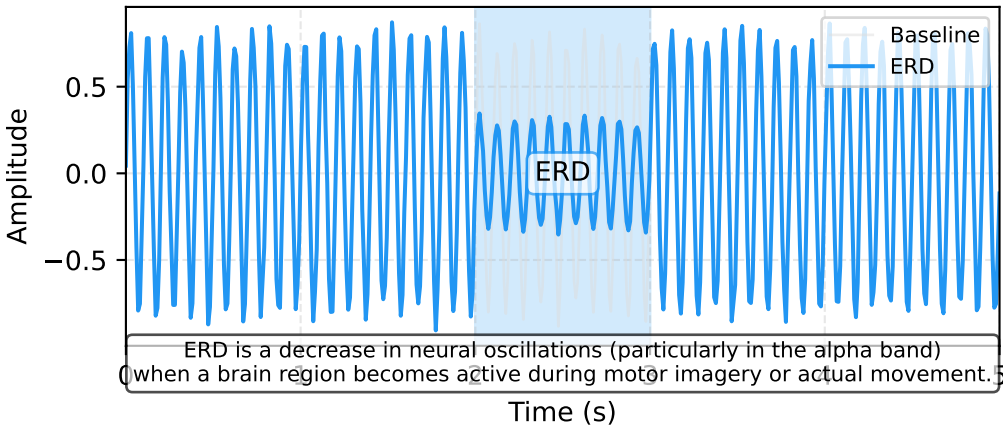
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



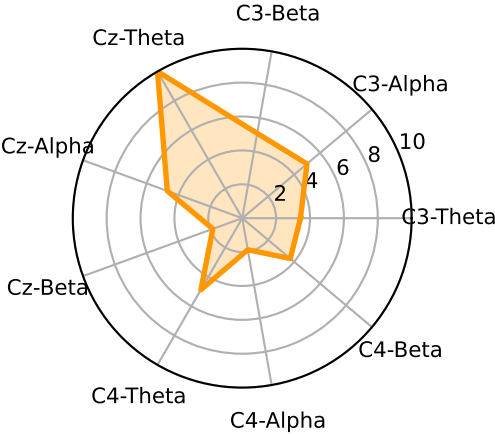
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

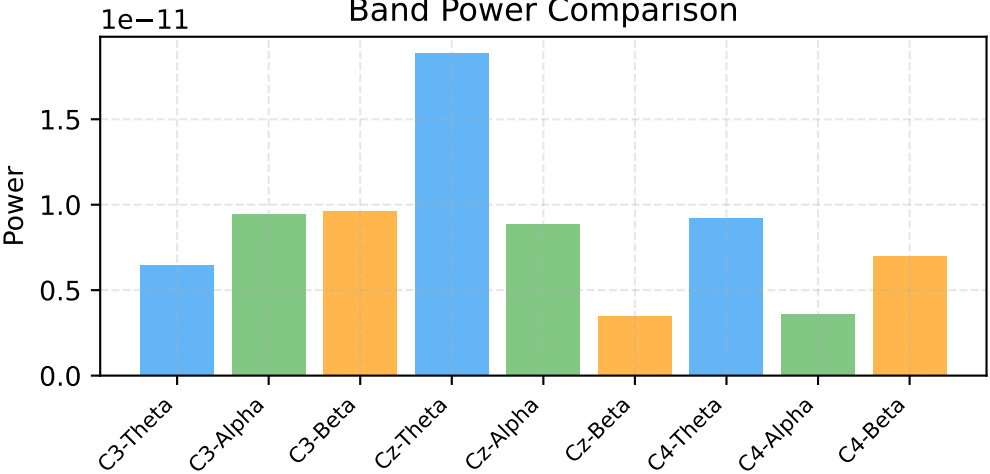
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 9, RIGHT State

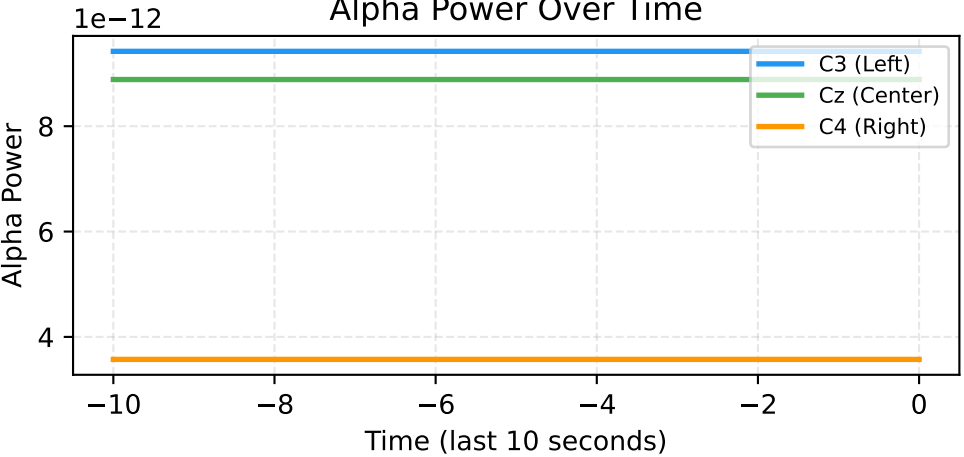
EEG Band Power Distribution



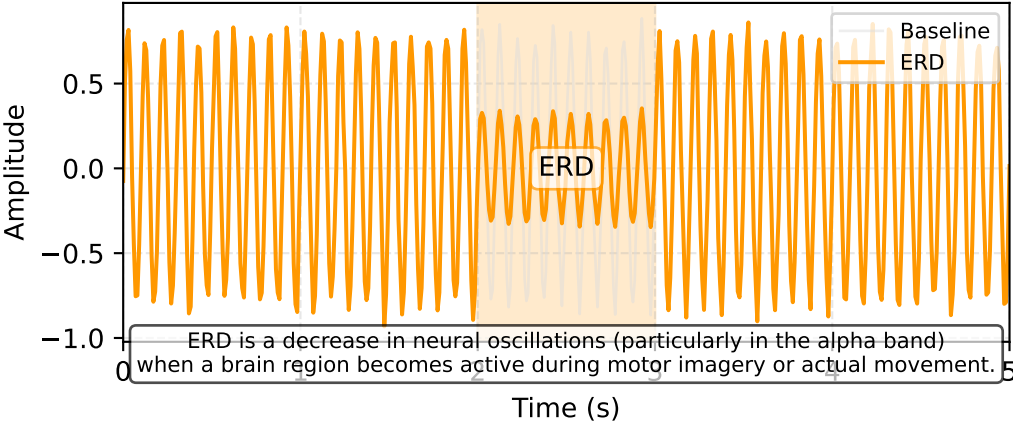
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



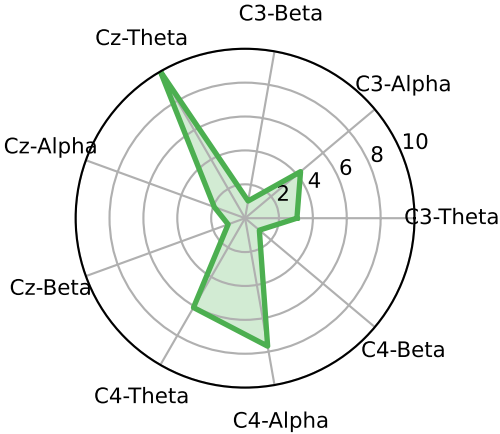
Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).

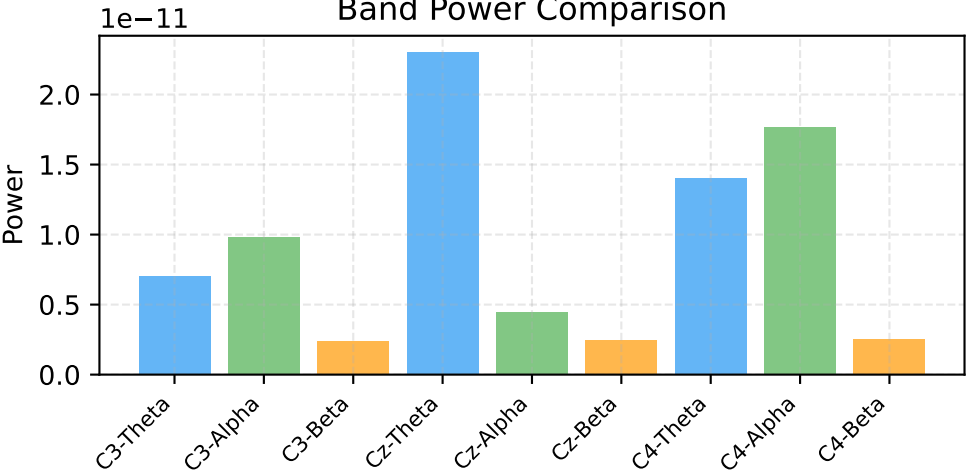
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 10, REST State

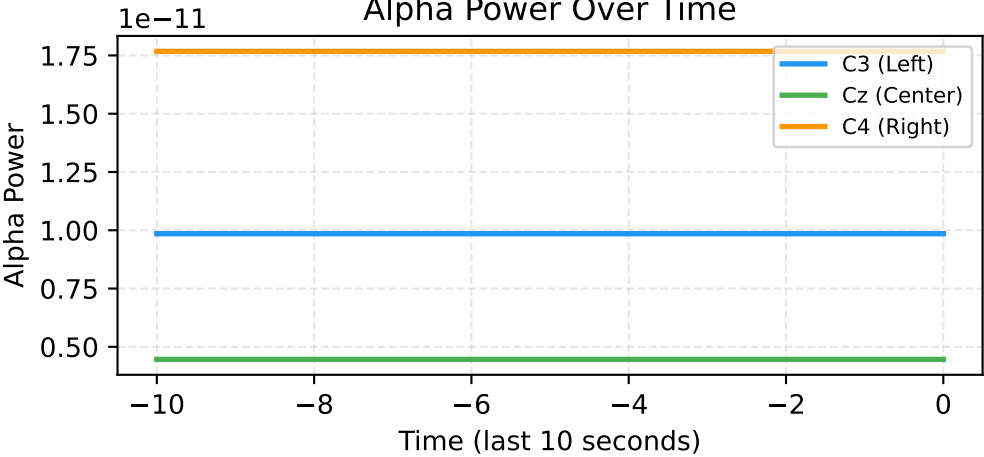
EEG Band Power Distribution



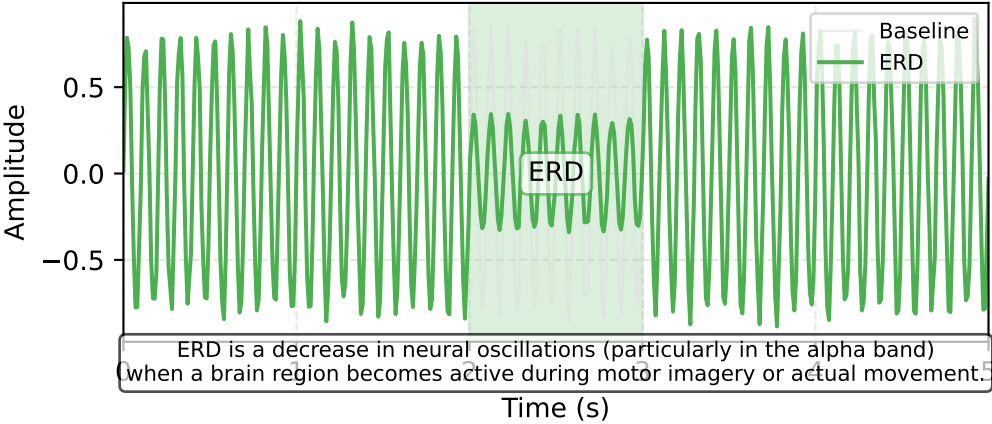
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



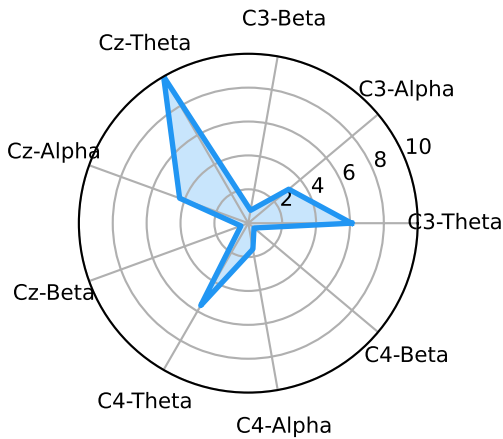
Mental Command: REST

REST STATE: Strong alpha rhythm present in all channels.

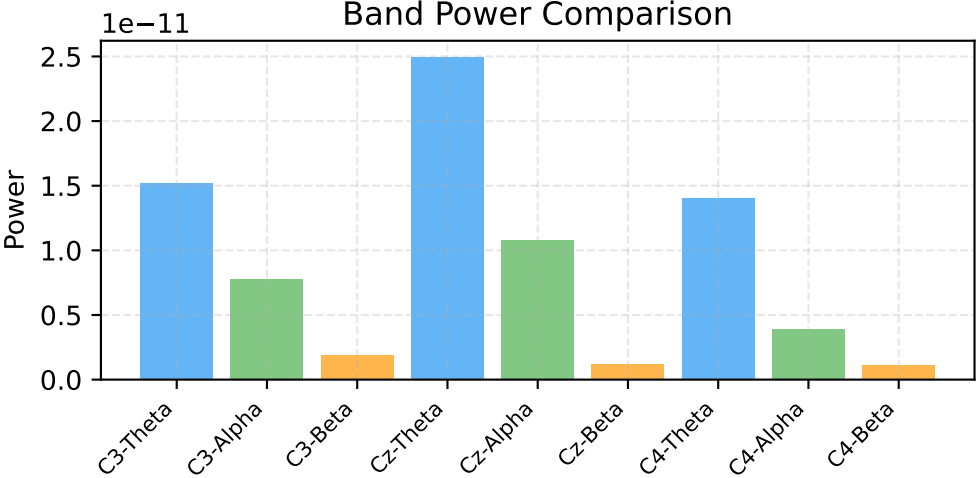
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 10, LEFT State

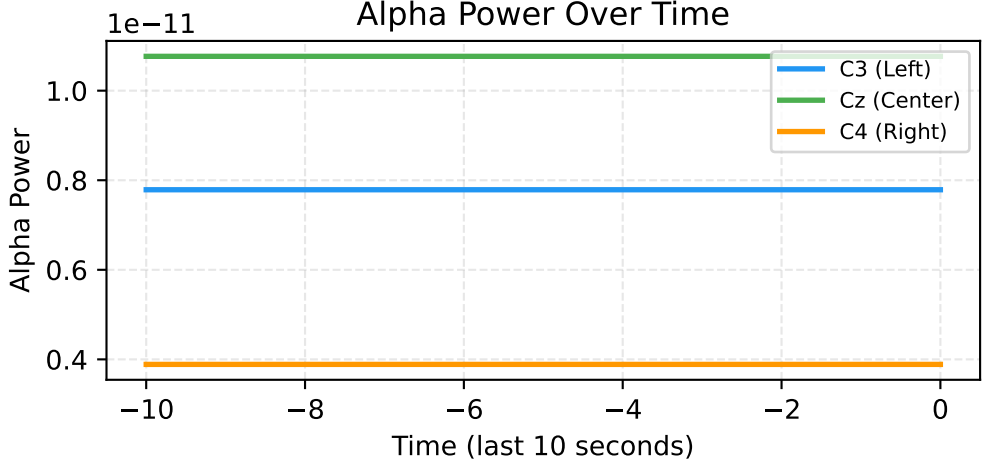
EEG Band Power Distribution



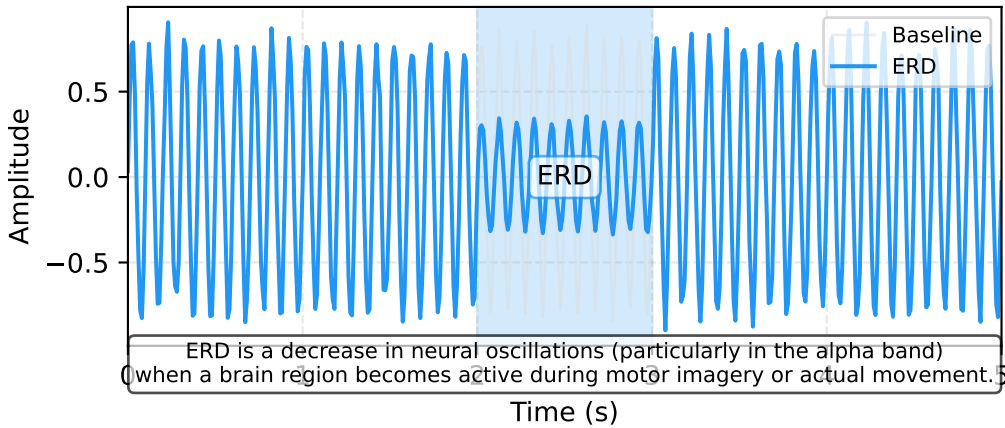
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



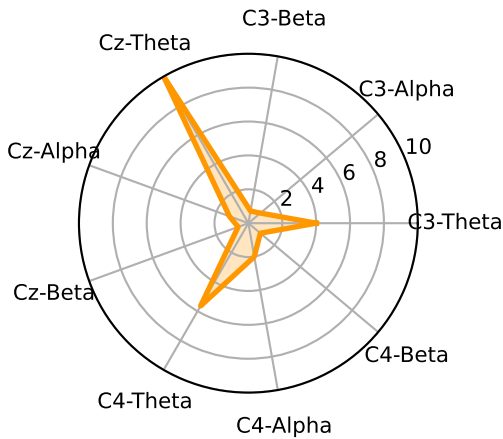
Mental Command: LEFT

LEFT HAND IMAGERY: Event-Related Desynchronization (ERD) in right motor cortex (C4).

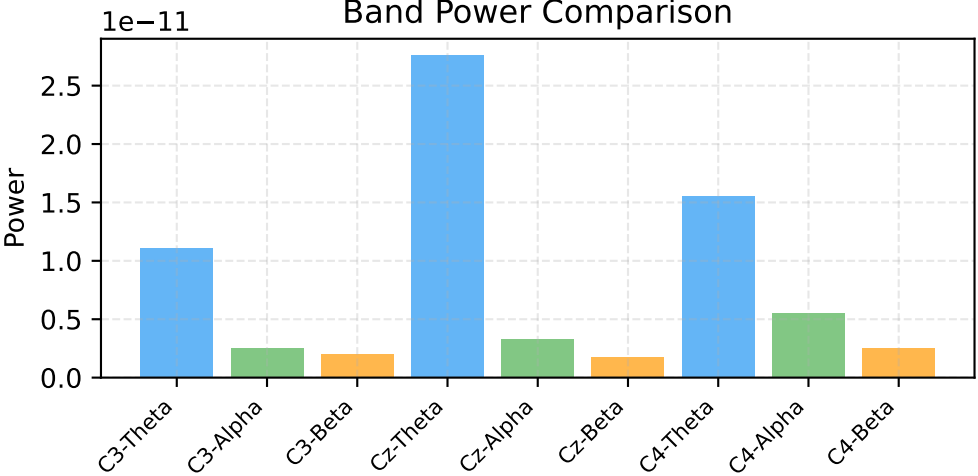
Brain-Computer Interface: Motor Imagery Analysis

EEG Feature Analysis - Subject 10, RIGHT State

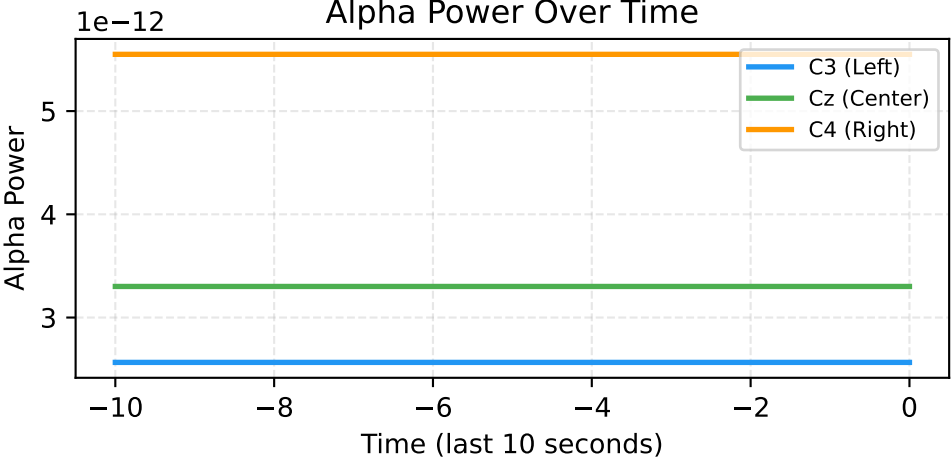
EEG Band Power Distribution



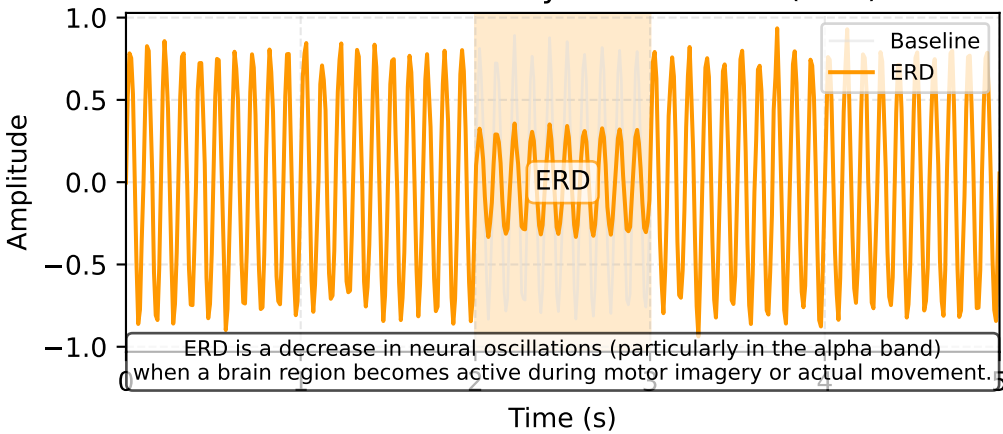
Band Power Comparison



Alpha Power Over Time



Event-Related Desynchronization (ERD)



Mental Command: RIGHT

RIGHT HAND IMAGERY: Event-Related Desynchronization (ERD) in left motor cortex (C3).