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Early Diagnosis of Mild Cognitive Impairment and Alzheimer's with Event-Related Potentials and Event-Related Desynchronization in N-Back Working Memory Tasks

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Highlights

- In this study we performed a thorough investigation on the use of event-related potentials (ERP) and event-related (de)synchronization (ERD/ERS) for early Alzheimer's disease (AD) diagnosis.
- We compared behavioural results (reaction time and accuracy), ERP and ERD/ERS responses when healthy elderly (HE) controls, Mild Cognitive Impairment (MCI) and mild AD patients were performing a three-level N-Back working memory task
- Our most important finding was that ERD/ERS analyses have revealed themselves more valuable than ERP, since they showed significant differences in all three group comparisons: HE vs. MCI, HE vs. AD, and MCI vs. AD.

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