EEG correlate of summed similarity during a working memory task

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Introduction

1. the NEMO summed similarity model (Kahana & Sekuler, 2002)
2. oscillations in recognition memory: old/new effects (Cohen, 2000)
3. hypothesis: gamma oscillations in memory matching (Herreman, Mark & Engel (2004)
4. neural representation of face similarity (Leffler et al. 2005; Aguini, in prep)
5. NMR evidence for face match in DLPFC (Druzel & D’Esposito, 2001)
6. GOAL: finding NEMO in the brain

Data Analysis

1. Sternberg memory paradigm
2. p transform of 1000 ms post-probe
3. in 10 timebins (N lists, within subject; only lure trials)
4. permutation test (Nichols & Holmes, 2001)
5. compare zscore to permutation distribution

Summary

There exists an EEG correlate of summed similarity:
1. early parietal theta effect (gratings)
2. additional frontal theta activation (gratings)
3. middle gratings theta activation similar to target/lure effect
4. faces right temporal correlation
5. late both gratings and faces show right occipital effect
6. not an artifact of target/lure status

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References