Retinotopic and orientation selectivity of EEG alpha/beta and gamma power

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Abstract: EEG signals show characteristic modulation in response to visual stimulus in the alpha/beta (8-25Hz) and gamma (50-80Hz) frequency ranges. Typically there is a decrease in alpha/beta power and an increase in gamma power in response to a high contrast sinusoidal grating. However, the functional selectivity of alpha/beta and gamma in response to basic stimulus properties such as retinotopic location and orientation are unknown. To better understand the functional role of alpha/beta and gamma rhythms, we compared their tuning curves in response to parametric modulations of the retinotopic location and orientation of drifting sinusoidal gratings. We find gamma power and peak frequency are both systematically modulated by grating orientation, responding most strongly to vertical gratings. The scalp topography of gamma

Orientation selectivity EEG:

As a function of time (0.5 – end vs 0 – end) – probably more selective later in time

Peak frequency and power (two big ones)