

Topic 2: Crossmodal Selective Attention

Selective attention contributes to perceptual efficiency by modulating cortical activity according to task demands. Behavioural study on this topic has a very long history. Later, neurophysiological methods (such as EEG) were applied to investigate the underlying neural mechanisms. Event-related potentials (ERP) and steady-state evoked potentials (SSEP) are two common brain signals to be analyzed in BCI experiments.

It is known that so far ERP components could be modulated by crossmodal selective attention. However, there are only unimodal studies regarding SSEP. According to previous results on ERP, crossmodal links reveal the top-down influence and the construction of external space, which are irrelevant to the characteristics of external stimuli. Aiming to investigate crossmodal attention effects on SSEPs, we try to do a series of experiments with steady-state stimulations as well as transient stimulations in more than one modality simultaneously and find out how crossmodal attention affects SSEPs.