Exploring EEG for Object Detection and Retrieval

Research has firmly established through rapid-serial visual presentation (RSVP) experiments, that the human brain's response to a recognition stimulus produces well-defined, characteristic, and detectable response in the corresponding EEG.

Two different stimulus, one target, one distractor. Asked to detect target stimulus.  
For each query, 1000 images, 5% of target images.  
Two visualization rates: 5Hz (200s) and 10Hz (100s).

When reacting to target stimulus, P300 wave appears and captured.

EEG signals compared to mouse interface performance comparison.  
Mouse better compared to 5Hz (200s) but EEG slightly better at 10Hz.  
However huge drop in performance for mouse interface between 10Hz and 5Hz.