

1-B-16 Relationship between mood state and visual information processing in red and blue wavelength

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Purpose: In this study, we examined the relationship between mood state and visual information processing in which different wavelengths.

Methods: We recorded visual evoked potential (VEP) after completing Profile of Mood State (POMS) questionnaire in normal vision subjects. VEPs were recorded by red or blue Light Emitting Diode stimulus (red: 635nm, blue: 470nm) from Fz and Oz.

Results: In the blue stimulus condition, the significant correlation between the mood state and VEP amplitudes are shown in Fz and Oz. The Red stimulus condition, there are shown only at Oz.

Discussion: These findings suggest that the effects of the mood state on visual information processing are different between red and blue wavelength stimulation.

Key words: LED, VEP, POMS

1-B-17 Brain potential changes in orienting sensory modality during reaction tasks

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Purpose: We sought to characterize back-ground cortical activity related to sequential sensory stimuli during reaction tasks. It should be considered that the back-ground cortical activity modulate the brain potentials and reaction times. The purpose of the study is to determine whether or not the event related potentials and synchronization / desynchronization (ERS/ERD) show the changes in orienting sensory modality.

Method: we recorded electroencephalogram (EEG) from eleven healthy subjects who received visual and auditory stimuli and performed reaction tasks. The conditions of stimuli presentation consist of single, compound and multi modality condition. Visual and Auditory evoked potentials (VEP and AEP) were obtained and Multi band filter analysis (MBFA) was used to calculate EEG spectral power to analyze ERS/ERD.

Results and Discussion: We found that, relative to single modality stimuli, the reaction times were increased under the compound stimuli condition, and decreased under the multi modality condition. The ERP obtained by multi modality stimuli showed integrated component and the ERS/ERD showed the different changes in single and multi modality stimuli. By correlating ERS/ERD and reaction times, we identify the back-ground cortical activity that related to orienting to sensory stimuli accompanying reaction tasks.

Key Words: ERS/ERD, Reaction tasks, Orientings