Intersubject consistency of cortical EEG signal during movie viewing with positive and negative emotional content

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Neurophysiological research of emotions during movie viewing

- Neuroscience
- Brain as a main source of information about emotions
- Important for:
 - Neuromarketing
 - Neurobiology of emotion
 - Neuroscience of film
- Previous study:
 - Neural reliability
 - Complexity of emotions
 - Films naturalistic stimuli
 - Dmochowski study breakthrough*

The main goal of research

• Research questions:

- How consistency is represented in our brain?
- ISC good marker of emotional state?
- Aims:
 - Identify Intersubject Correlation (ISC)
 - Show neural reliability of emotional states
- Practical purpose:
 - Develop a new method of tracking emotions

Methodology

Methods

- Electroencephalography (EEG)
- Emotional Database (EMDB)
- Self-Assessment manikin (SAM)
- Tools:
 - MATLAB software for analysis
 - sLORETA for source analysis
- Research specifications:
 - 20 subjects
 - All right handed
 - Without neural systems disease in past



Self-Assessment manikin (SAM)

Experimental Design



EEG recordings

Expected results

- Correlation between EEG components in positive emotions
- Low level of neural reliability in negative emotions
- Questionnaire will show difference between positive and negative movies
- ISC good marker of emotional state

