Title："Multimodal fEEG and fNIRS analysis of human responses to affective visual and auditory stimuli -Towards novel BCI/BMI paradigms"

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［Abstract］

Human factor” in contemporary interactive communication systems as well as socially-aware environments plays important role in a design process. Communication supportive environments receiving broad support from the users are usually expected to follow human-communication-principles which result from a very long evolution. Already established in neuroscience tools such as functional electroencephalography (fEEG) and functional near infrared spectroscopy (fNIRS) correlate conscious and affective experiences with electromagnetic field activity and oxygenation changes localized in cortical areas of the brain. Additional peripheral body measurements such as skin conductance, heart-rate, breath and pulse variability, as well facial muscle and eye-movement characteristics also correlate to emotional arousal. Brain computer/machine interfacing technologies (BCI/BMI) are growing in interest platforms to test established and new human-computer interaction paradigms without involvement (or with very limited) of peripheral nervous system. We will present state of the art as well new directions in affective/emotional as well spatial awareness related research conducted in our laboratory.