

Measurement of Event-related EEG correlations between two human subjects over a large distance

Results:

In order to proof the hypothesis of a correlation in stimulus-related electrophysiological measures in distant pairs of participants' measurements were carried out between one lab in England and one in Germany synchronously. 28 sessions were conducted with 16 pairs of participants in which one of both had to view 360 pictures in five runs. Emotionally affective pictures, neutral pictures, black screen stimuli, and pictures of the co-participant were presented. The three seconds post-stimulus event-related responses and power spectral EEG data of the non-stimulated participant were used for analysis. A non-parametrical statistical approach was applied to the epochs using a randomised selection of 10 000 possible but arbitrary stimulus sequences in the same data files for comparison with the actual one.

The results for the entire group could not replicate the findings of the previous studies. The event-related potentials show no remarkable effect nor does the EOG reveal remarkable significances. The spectral analysis also did not show exceptional significances in all categories. However, the significances seem not to be equally distributed over all participants. Three participants show extraordinary high significances for emotional, affective, or the co-participants pictures. The SCPs and skin conductance level and response revealed the highest z-scores which is in line with the fact that both measures react highly sensitive on emotional changes and changes in the arousal level. Other measures such as the time series ERP and the frequency bands did not show exceptional significance values. However, extraordinary large values in some participants suggest the existence of 'gifted participants'.

Published work:

- Hinterberger, T., Mochty, U., Schmidt, S., Walach, H., „EEG-Korrelationen zwischen räumlich weit entfernten Paaren“, submitted to Zeitschrift für Anomalistik.
- Hinterberger, T. (in press), "Searching for Neuronal Markers of Psi - A summary of three studies measuring electrophysiology in distant participants.", Journal of the Society of Psychical Research.
- Hinterberger, T., Studer, P., Jäger, M., Haverty-Stacke, C., & Walach, H. (2007). Can a slide-show presentation effect be discovered in brain electrical activity? *Journal of the Society for Psychical Research*, 71.3, 148-166.
- Hinterberger, T., "Searching for Neuronal Markers of Psi - A summary of three studies measuring electrophysiology in distant participants", submitted for Parapsychology Conference, Utrecht, Oct. 2008.

- XXIV. WGFP-Workshop 2008, Offenburg, 24.-26.10.2008: Ergebnisse der drei Korrelationsstudien zwischen räumlich entfernten Probanden

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