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**MEASUREMENT OF PRE-STIMULUS EVENT-RELATED POTENTIALS AND  
SUPPRESSION OF ALPHA WAVE POWER AS A PROBE OF THE CONSCIOUSNESS  
INDUCED RESTORATION OF TIME-SYMMETRY HYPOTHESIS**

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**Background:** Time-symmetries in fundamental physics have been used to model electromagnetism in the Feynman-Wheeler Absorption Theory and quantum mechanics in the Transactional Interpretation. More recently, it has been suggested by D. Bierman (2010) that physical time-symmetries might be used to model pre-stimulus physiological anticipation of non-inferential events in a model called “Consciousness Induced Restoration of Time-Symmetry (CIRTS)”. Pre-stimulus physiological anticipation of non-inferential events has been alternatively called “presentiment” or “Physiological Anticipatory Activity (PAA)”. Two published meta-analyses have indicated a weak but replicable effect.

**Aims:** The goal of this experiment was to create conditions conducive to creating a time-symmetric effect in EEG and test the CIRTS hypothesis.

**Method:** A large contrast between no-stimulus and stimulus conditions was created. Subjects sat in a shielded room in darkness and white noise and were instructed to attend to a sequence of auditory and sound stimuli events while electroencephalography (EEG) was recorded from the scalp. Three types of stimulus events were used in this experiment: 1) no stimulus (null), 2) light, and 3) sound. Each stimulus type was selected with equal probability using a quantum random number generator. For each participant there were four sessions, each with 20 stimulus events. Each event was separated by 28 to 32 seconds. The sound stimulus was generated by a buzzer whereas the light stimulus was generated by a monitor. The voltage across the buzzer relay and the voltage from a photovoltaic panel were measured to verify when the stimuli was active.

**Results:** Data were analysed in an exploratory fashion for Event Related Potentials (ERPs) and alpha wave power. The ERP analysis returned a null effect pre-stimulus while the alpha wave power showed a significant pre-stimulus effect.

**Conclusions:** The current results indicate that post-stimulus alpha suppression may be reflected in the pre-stimulus region of time. However, further confirmatory research is needed before conclusions can be reached.

**Keywords:** Presentiment, PAA, EEG, Time-symmetry, Alpha waves

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