Nonlinear Interaction of the Beat-Photon Beams with the Brain Neurocenters: Laser Neurophysics

V. ALEXANDER STEFAN, Institute for Advanced Physics Studies, Stefan University, La Jolla, CA. — I propose a novel mechanism for laser-brain interaction: Nonlinear interaction of ultrashort pulses of beat-photon, \((\omega_1 - \omega_2)\), or double-photon, \((\omega_1 + \omega_2)\), beams with the corrupted brain neurocenters, causing a particular neurological disease. The open-skull cerebral tissue can be irradiated with the beat-photon pulses in the range of several 100s fs, with the laser irradiances in the range of a few mW/cm\(^2\), repetition rate of a few 100s Hz, and in the frequency range of 700-1300nm generated in the beat-wave driven free electron laser.\(^2\) This method may prove to be an effective mechanism in the treatment of neurological diseases: Parkinson’s, Lou Gehrig’s, and others.


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