

Abstract Submitted
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Physics of the Brain: Interaction of the Optical-Fiber-Guided Multi-Ultraviolet-Photon Beams with the Epilepsy Topion, (the Seizure Onset Area)¹ V. ALEXANDER STEFAN, Institute for Advanced Physics Studies, Stefan University, La Jolla, California 92037 — A novel method for the possible prevention of epileptic seizures is proposed, based on the multi-ultraviolet-photon beam interaction² with the epilepsy topion, (nonlinear coupling of an ultra high frequency mode to the brain beta phonons). It is hypothesized that epilepsy is a chaotic-dynamics phenomenon: small electrical changes in the epilepsy-topion lead, (within the 10s of milliseconds), to the onset of chaos, (seizure—excessive electrical discharge), and subsequent cascading into adjacent areas.³ The ultraviolet photons may control the imbalance of sodium and potassium ions and, consequently, may prove to be efficient in the prevention of epileptic seizures.

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²V. Stefan, B. I. Cohen, C. Joshi, *Science*, 243, 4890, (Jan.27, 1989); Stefan et al., *Bull. APS* 32, No.9, 1713, (1987); Stefan, APS-March-2015, # P1.00099; V. Alexander Stefan, Neurophysics, *Stem Cell Physics, and Genomic Physics: Beat-Wave-Driven-Free Electron Laser Beam Interactions with the Living Matter*, (S-U-Press, La Jolla, Calif, 2012).

³H.P. Zaveri et al., Localization-related epilepsy exhibits significant connectivity away from the seizure-onset area, *Neuroreport*, 20(9), 891-5, Jun17, 2009.

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