

Superradiance

superradiance: coherent photons of the same frequency and in phase which in turn can transform any incoherent thermal and disordered molecular, atomic, or EM energy into more coherent photons. <http://xxx.lanl.gov/abs/hep-ph/9505374>

Fund/nanopoulos

Theory of Brain Function, Quantum Mechanics and Superstrings by D.V. Nanopoulos

Notes: [fundamental_reality\nanopoulos.doc](#)

Notes: [fundamental_reality\nanopoulos.htm](#)

Original paper: [fundamental_reality\9505374v1.pdf](#)

Stewart Hameroff, Roger Penrose, Donald O. Hebb, Stephen Hawking, Herbert Fröhlich, Del Giudice, Sir John Eccles, Freud,

consciousness, microtubules, Macroscopic Quantum States, Superconductivity, Weiss regions, Renormalization Group Equations, EEG, quantum mechanics, Heisenberg uncertainty principle, quasicrystal, neural networks, Hopfield model, spin-glass model, planck length, quantum vacuum fluctuations, Hawking radiation, black hole, string theory, Bohm-Aharonov effect, DNA, ATP, GTP, superradiance, photon, exocytosis, synchordic collapses, Jamesian views of consciousness,

“Jubi et al have proposed that the quantum dynamical system of water molecules and the quantized EM field confined within the hollow MT core can manifest a specific collective effect called superradiance, by which the MT can transform any incoherent thermal and disordered molecular, atomic, or EM energy into coherent photons inside the MTs.”

Quantum Brain Dynamics and Consciousness

Mari Jibu & Kunio Yasue

(John Benjamins, 1995)

Building on the quantum field theory developed in the 1960s by the Japanese physicist Hiroomi Umezawa, Kunio Yasue et al have developed a "quantum neurophysics" that explains how the classical world can originate from quantum processes in the brain.

Yasue believes that several layers of the brain can host macroscopic quantum processes, whose quantum properties explain consciousness and cognition.

<http://www.scaruffi.com/mind/yasue.html>. Yasue et al have proposed a process whereby cyclical superradiance (long range coherence) occurs in the water molecules of the microtubule.

<http://www.scaruffi.com/mind/yasue.html>