COHERENT STATES, FRACTALS AND BRAIN WAVES

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I show that a functional representation of self-similarity (as the one occurring in fractals) is provided by squeezed coherent states. In this way, the dissipative model of brain is shown to account for the self-similarity in brain background activity suggested by power-law distributions of power spectral densities of electrocorticograms. I also briefly discuss the action-perception cycle in the dissipative model with reference to intentionality in terms of trajectories in the memory state space.

Keywords: Neuronal synchronized oscillations; brain background activity; self-similarity; coherent states

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