

The Route from Chaotic Dynamics to Quantum Theory

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Abstract

An open debate exists nowadays on how to properly connect chaos theory and strange attractors, on the one hand, to Quantum Field Theory (QFT) and Quantum Mechanics (QM) on the other. We post here a condensed flow-chart reflecting our personal view on this topic.

Key words: chaos, strange attractors, critical phenomena, Quantum Field Theory, Quantum Mechanics.

Universality in the behavior of Nonlinear Dynamical Systems [1-4]



Approach to strange attractors and chaos [5-7]



Fractals, Multifractals and Fractional Dynamics [8-10]



Critical behavior and scale invariance [11, 12]



QFT as manifestation of critical behavior [10, 13]



QM as subset of QFT in 0+1 dimensions [14]

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