

Competitive mode and topological properties of nonlinear systems with hidden attractor

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[Anirban Ray](#), [Papri Saha](#) & [A. Roy Chowdhury](#) 

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Abstract

Mechanism for the generation of attractor in nonlinear systems with hidden attractor is still not understood completely. Since such systems do not possess all the requisite properties related to fixed points (sometimes they do not possess any fixed point at all), it is really difficult to apply usual logic for attractor generation. Under these circumstances we have applied the recent concept of competitive modes to such nonlinear systems. We show that a reasonable explanation can be obtained in this framework when these modes operate in a slightly different manner. In this connection we have introduced a new quantitative measure of competitiveness through the correlation between any two mode