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Please use this identifier to cite or link to this item: http://hdl.handle.net/123456789/2783 Title: Effect of switching links in networks of piecewise linear maps

Authors: Sinha, Sudeshna (/jspui/browse?type=author&value=Sinha%2C+Sudeshna)

Switching links Networks of piecewise

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Citation: Nonlinear Dynamics 81(4), pp.1741-1749.

Abstract: We investigate the spatiotemporal behaviour of a network where the local dynamics at the nodes

> (sites) is governed by piecewise linear maps. The local maps we consider exhibit the interesting and potentially useful property of robust chaos. We study the coupled system of such maps with varying fraction of random non-local connections, where the random links may be static, or may change over time. While this system is always unsynchronized under regular connections, synchronized chaos emerges when some of the links are rewired randomly. Further, increasing the frequency of link changes and fraction of random links significantly enhances the range of synchronization. Additionally, dynamic random links are also found to suppress unbounded dynamics in parameter regimes where blow-ups occurred under regular coupling

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