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Dynamics of Quadratic Networks

Simone Evans
SUNY New Paltz, evanss3@hawkmail.newpaltz.edu

Many natural systems are organized as self-interacting networks composed of coupled quadratic nodes. Because these nodes receive functional input from not only themselves but also the other nodes in the network, they have ensemble behavior different from that of isolated functional nodes. Our objective is to study how the architecture of a network affects asymptotic dynamics. We extend accepted theorems and results from systems with isolated quadratic nodes to networks of quadratic nodes.