

Synchronization and Bifurcation of General Complex Dynamical Networks

SUN Wei-Gang,¹ XU Cong-Xiang,¹ LI Chang-Pin,¹ and FANG Jin-Qing²

¹ Department of Mathematics, Shanghai University, Shanghai 200444, China

² China Institute of Atomic Energy, Beijing 102413, China

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Abstract: In the present paper, synchronization and bifurcation of general complex dynamical networks are investigated. We mainly focus on networks with a somewhat general coupling matrix, i.e., the sum of each row equals a nonzero constant u . We derive a result that the networks can reach a new synchronous state, which is not the asymptotic limit set determined by the node equation. At the synchronous state, the networks appear bifurcation if we regard the constant u as a bifurcation parameter. Numerical examples are given to illustrate our derived conclusions.

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