IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, December 2025
Impact Factor: 7.67

Optimal Synchronization of Higher-Order Dynamical Networks

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Abstract: *This article briefly reviews the topic of complex network synchronization, with its Graph-theoretic criterion, showing that the homogeneousAnd symmetrical network Structures are essential for optimal synchronization. Furthermore, it briefly reviews*
The notion of higher-order network Topologies and shows their promising potential In application to evaluating The optimality of network synchronizability. The abstract for "Optimal Synchronization of Higher-Order Dynamical Networks" likely Discusses how to achieve the best possible synchronization by controlling the network's Structure and interactions. Research in this area shows that optimizing the topology of Networks with higher-order interactions can lead to homogeneous structures in undirected Networks and can be either symmetric or asymmetric in directed networks. Other related Abstracts mention using higher-order interaction frameworks, like the multi-order Laplacian matrix, to analyze synchronization behavior and the potential of methods like Pinning control for achieving stability.

Keywords: Complex network, synchronization, Optimal synchronizability, simplex, Higher-order

DOI: 10.48175/568