



Complex Systems and Networks [Dynamics, Controls and Applications /

Lü, Jinhua,
ed. lit
Yu, Xinghuo,
ed. lit
Chen, Guanrong,
ed. lit
Yu, Wenwu,
ed. lit

Springer Berlin Heidelberg,
2016

Engineering Complexity Applications of Graph Theory and Complex Networks Applications of Nonlinear Dynamics and Chaos Theory

Monografía

This elementary book provides some state-of-the-art research results on broad disciplinary sciences on complex networks. It presents an in-depth study with detailed description of dynamics, controls and applications of complex networks. The contents of this book can be summarized as follows. First, the dynamics of complex networks, for example, the cluster dynamic analysis by using kernel spectral methods, community detection algorithms in bipartite networks, epidemiological modeling with demographics and epidemic spreading on multi-layer networks, are studied. Second, the controls of complex networks are investigated including topics like distributed finite-time cooperative control of multi-agent systems by applying homogenous-degree and Lyapunov methods, composite finite-time containment control for disturbed second-order multi-agent systems, fractional-order observer design of multi-agent systems, chaos control and anticontrol of complex systems via Parrondos game and many more. Third, the applications of complex networks provide some applicable carriers, which show the importance of theories developed in complex networks. In particular, a general model for studying time evolution of transition networks, deflection routing in complex networks, recommender systems for social networks analysis and mining, strategy selection in networked evolutionary games, integration and methods in computational biology, are discussed in detail.

<https://rebiunoda.pro.baratznet.cloud:38443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhcmF0ei5yZW4vMjI1NzQ2Nzk>

Título: Complex Systems and Networks [Recurso electrónico] Dynamics, Controls and Applications edited by Jinhua Lü, Xinghuo Yu, Guanrong Chen, Wenwu Yu

Edición: 1st ed. 2016

Editorial: Berlin, Heidelberg Springer Berlin Heidelberg Imprint: Springer 2016

Editorial: Berlin, Heidelberg Springer Berlin Heidelberg 2016

Descripción física: VIII, 482 p. 196 il., 158 il. col

Mención de serie: Understanding Complex Systems

Nota general: Bibliographic Level Mode of Issuance: Monograph

Contenido: Discovering Cluster Dynamics Using Kernel Spectral Methods -- Community Detection in Bipartite Networks: Algorithms and Case Studies -- Epidemiological Modeling on Complex Networks -- Resilience of Spatial Networks -- Synchronization and Control of Hyper and Colored Networks -- New Nonlinear CPRNG Based on Tent and Logistic Maps -- Distributed Finite-time Cooperative Control of Multi-agent Systems -- Composite Finite-time Containment Control for Disturbed Second-order multi-agent Systems.-Application of Fractional-order Calculus in a Class of Multi-Agent System -- Chaos Control and Anticontrol of Complex Systems via Parrondos Game -- Collective Behavior Coordination with Predictive Mechanisms -- Convergence, Consensus and Synchronization of Complex Networks via Contraction Theory -- Towards Structural Controllability of Temporal Complex Networks -- A General Model for Studying Time Evolution of Transition Networks -- Deflection Routing in Complex Networks -- Recommender Systems for Social Networks Analysis and Mining: Precision vs. Diversity -- Strategy Selection in Networked Evolutionary Games: Structural Effect and the Evolution of Cooperation -- Network Analysis, Integration and Methods in Computational Biology

Lengua: English

ISBN: 9783662478240 9783662478233 9783662478257 9783662507445

Materia: Engineering Complexity. Applications of Graph Theory and Complex Networks. Applications of Nonlinear Dynamics and Chaos Theory.

Autores: Lü, Jinhua, ed. lit Yu, Xinghuo, ed. lit Chen, Guanrong, ed. lit Yu, Wenwu, ed. lit

Enlace a formato físico adicional: 3-662-47823-4

Punto acceso adicional serie-Título: Understanding Complex Systems

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es