1. Record Nr. UNISA996464529203316

Autore	Lu Jianquan
Titolo	Collective behavior in complex networked systems under imperfect communication / / Jianquan Lu [and three others]
Pubbl/distr/stampa	Singapore : , : Springer, , [2021] ©2021
ISBN	981-16-1506-3
Descrizione fisica	1 online resource (279 pages)
Disciplina	006.30285436
Soggetti	Multiagent systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Intro -- Preface -- Contents -- Symbols -- 1 Introduction -- 1.1 Background -- 1.2 Research Problems -- 1.2.1 Consensus and Practical Consensus -- 1.2.2 General Model Description -- 1.2.2.1 Continuous-time Multi-agent Consensus Model -- 1.2.2.2 Discrete-time Multi-agent Consensus Model -- 1.3 Mathematical Preliminaries -- 1.3.1 Matrices and Graphs -- 1.3.2 Signed Graphs -- 1.3.3 Quantizer -- 1.3.4 Discontinuous Differential Equations -- 1.3.5 Some Lemmas -- References -- 2 Consensus Over Directed Static Networks with Arbitrary Finite Communication Delays -- 2.1 Linear Coupling -- 2.1.1 The Case of Leaderless -- 2.1.2 The Case with One Well-Informed Leader -- 2.2 Nonlinear Coupling -- 2.3 Hierarchical Structure -- 2.4 Numerical Examples -- 2.5 Summary -- References -- 3 Practical Consensus of Multi-agent Networks with Communication Constraints -- 3.1 Practical Consensus with Quantized Data -- 3.1.1 Model Description -- 3.1.2 Finite-Time Practical Consensus Under Quantization -- 3.1.3 Numerical Example -- 3.2 Consensus with Hybrid Communication Constraints -- 3.2.1 Model Description and Preliminaries -- 3.2.2 The Existence of the Filippov Solution -- 3.2.3 Practical Consensus Under Quantization and Time Delay -- 3.2.4 Numerical Example -- 3.2.5 Discussions -- 3.2.5.1 Can the ``Time Delay'' and ``Quantization'' Be Handled Independently in This Work? -- 3.2.5.2 A New Result Stemming from Theorem 3.15 -- 3.3 Summary -- References -- 4 Multi-agent Consensus with Quantization and

Communication Delays -- 4.1 Discrete-Time Case -- 4.1.1 Model Description -- 4.1.2 Main Results -- 4.1.3 Numerical Example -- 4.2 Continuous-Time Case -- 4.2.1 Model Description and Preliminaries -- 4.2.2 The Existence of the Filippov Solution -- 4.2.3 Consensus Analysis Under Quantizationand Time Delays -- 4.2.4 Numerical Example -- 4.3 Summary -- References.
5 Event-Based Network Consensus with Communication Delays -- 5.1 Distributed Discrete-Time Event-Triggered Consensus with Delays -- 5.1.1 Model Description -- 5.1.2 Distributed Event-Triggered Approach -- 5.1.3 Numerical Example -- 5.2 Distributed Continuous-Time Event-Triggered Consensus with Delays -- 5.2.1 Model Description -- 5.2.2 Asynchronously Distributed Event-Triggered Approach -- 5.2.3 Synchronously Event-Triggered Control -- 5.2.4 Numerical Example -- 5.3 Summary -- References -- 6 Consensus of Networked Multi-agent Systems with Antagonistic Interactions and Communication Delays -- 6.1 Continuous-Time Multi-agent Consensus -- 6.1.1 Linear Coupling -- 6.1.2 Nonlinear Coupling -- 6.1.3 Numerical Examples -- 6.2 Discrete-Time Multi-agent Consensus -- 6.2.1 Distributed Event-Based Bipartite Consensus -- 6.2.2 Self-triggered Approach -- 6.2.3 Numerical Example -- 6.3 Summary -- References -- 7 Finite-Time and Fixed-Time Bipartite Consensus for Multi-agent Systems with Antagonistic Interactions -- 7.1 Preliminaries -- 7.2 Finite-Time Bipartite Consensus -- 7.2.1 Finite-Time Bipartite Consensus Protocol -- 7.2.2 Pinning Bipartite Consensus Protocol -- 7.2.3 Numerical Examples -- 7.3 Fixed-Time Bipartite Consensus -- 7.3.1 General Fixed-Time Bipartite Consensus -- 7.3.2 Signed-Average Fixed-Time Bipartite Consensus -- 7.3.3 Numerical Examples -- 7.4 Summary -- References -- 8 Globally Exponential Synchronization and Synchronizability for General Dynamical Networks -- 8.1 Preliminaries -- 8.2 Synchronization Analysis -- 8.2.1 Irreducible Case -- 8.2.2 Reducible Case -- 8.3 Numerical Examples -- 8.4 Summary -- References -- 9 Pinning Cluster Synchronization in an Array of Coupled Neural Networks Under Event-Based Mechanism -- 9.1 Preliminaries and Problem Formulation -- 9.2 Pinning Cluster Synchronization Under Event-Triggered Mechanism.
9.3 Pinning Cluster Synchronization Under Self-triggered Mechanism -- 9.4 Numerical Example -- 9.5 Summary -- References -- 10 Multi-agent Consensus Recovery Approach Under Node Failure -- 10.1 Preliminaries -- 10.2 Consensus Analysis of General Multi-agent Networks -- 10.3 Consensus Recovery Approach -- 10.4 Numerical Examples -- 10.5 Summary -- References -- 11 Conclusion and Future Work -- 11.1 Conclusion -- 11.2 Future Work.