Record Nr. UNINA9910437892903321 Autore Su Housheng Titolo Pinning control of complex networked systems: synchronization, consensus and flocking of networked systems via pinning / / Housheng Su, Xiaofan Wang Berlin, : Springer, 2013 Pubbl/distr/stampa **ISBN** 1-283-94579-7 3-642-34578-6 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (xi, 163 pages): illustrations (some color) Collana Gale eBooks Altri autori (Persone) WangXiaofan Disciplina 006.3 519 620 621.382 Soggetti Computer networks Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Overview -- Pinning control for complete synchronization of complex dynamical networks -- Pinning control for cluster synchronization of complex dynamical networks -- Distributed pinning-controlled second-order consensus of multi-agent systems -- Distributed pinning-controlled consensus in a heterogeneous influence network --Distributed pinning-controlled flocking with a virtual leader --Distributed pinning-controlled flocking with preserved network connectivity. Sommario/riassunto Synchronization, consensus and flocking are ubiquitous requirements in networked systems. Pinning Control of Complex Networked Systems investigates these requirements by using the pinning control strategy, which aims to control the whole dynamical network with huge numbers of nodes by imposing controllers for only a fraction of the nodes. As the direct control of every node in a dynamical network with huge numbers of nodes might be impossible or unnecessary, it's then very important to use the pinning control strategy for the synchronization of complex dynamical networks. The research on pinning control strategy

in consensus and flocking of multi-agent systems can not only help us

to better understand the mechanisms of natural collective phenomena, but also benefit applications in mobile sensor/robot networks. This book offers a valuable resource for researchers and engineers working in the fields of control theory and control engineering. Housheng Su is an Associate Professor at the Department of Control Science and Engineering, Huazhong University of Science and Technology, China; Xiaofan Wang is a Professor at the Department of Automation, Shanghai Jiao Tong University, China.