Record Nr. UNINA9910484648803321 Recent Advances in Control Problems of Dynamical Systems and **Titolo** Networks / / edited by Ju H. Park Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2021 **ISBN** 3-030-49123-4 Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (548 pages): illustrations Collana Studies in Systems, Decision and Control, , 2198-4182;; 301 Disciplina 629.8312 Soggetti Control engineering Computational intelligence Control and Systems Theory Computational Intelligence Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Linear and Nonlinear Dynamic Systems -- Switched Systems and Hybrid Control -- Fractional-Order Systems -- Dynamical Networks -- Index. Sommario/riassunto This edited book introduces readers to new analytical techniques and controller design schemes used to solve the emerging "hottest" problems in dynamic control systems and networks. In recent years, the study of dynamic systems and networks has faced major changes and challenges with the rapid advancement of IT technology, accompanied by the 4th Industrial Revolution. Many new factors that now have to be considered, and which haven't been addressed from control engineering perspectives to date, are naturally emerging as the systems become more complex and networked. The general scope of this book includes the modeling of the system itself and uncertainty elements, examining stability under various criteria, and controller design techniques to achieve specic control objectives in various dynamic systems and networks. In terms of traditional stability matters, this includes the following special issues: nite-time stability and stabilization, consensus/synchronization, fault-tolerant control, eventtriggered control, and sampled-data control for classical

linear/nonlinear systems, interconnected systems, fractional-order systems, switched systems, neural networks, and complex networks. In

terms of introducing graduate students and professional researchers studying control engineering and applied mathematics to the latest research trends in the areas mentioned above, this book offers an excellent guide.