1. Record Nr. UNINA9910725098903321 Autore Sun Shaoxin Titolo Fault-Tolerant Control for Time-Varying Delayed T-S Fuzzy Systems [[electronic resource] /] / by Shaoxin Sun, Huaguang Zhang, Xiaojie Su, Jinyu Zhu Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 9789819913572 9789819913565 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (230 pages) Collana Intelligent Control and Learning Systems, , 2662-5466; ; 9 Altri autori (Persone) ZhangHuaguang SuXiaojie ZhuJinyu Disciplina 511.313 Soggetti Control engineering System theory Control theory Stochastic processes Automation Control and Systems Theory Systems Theory, Control Stochastic Systems and Control Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Chapter 1 Introduction -- Chapter 2 Fault Estimation and Tolerant Nota di contenuto Control for Time-Varying Delayed Fuzzy Systems with Actuator Faults -- Chapter 3 Fault Estimation and Tolerant Control for Multiple Time Delayed Fuzzy Systems with Sensor and Actuator Faults -- Chapter 4 Multiple Intermittent Fault Estimation and Tolerant Control for Switched T-S Fuzzy Stochastic Systems with Multiple Delays -- Chapter 5 Fault-Tolerant Control for Multiple Interval Time Delayed Switched Fuzzy Systems With Intermittent Faults -- Chapter 6 Fault-Tolerant Control for Multiple-Delayed Switched Fuzzy Stochastic Systems With

Intermittent Faults -- Chapter 7 Conclusion and Prospect.

This book delves into the complexities of fault estimation and fault-

Sommario/riassunto

tolerant control for nonlinear time-delayed systems. Through the use of multiple-integral observers, it addresses fault estimation and active fault-tolerant control for time-delayed fuzzy systems with actuator faults and both actuator and sensor faults. Additionally, the book explores the use of sliding mode control to solve issues of sensor fault estimation, intermittent actuator fault estimation, and active faulttolerant control for time-delayed switched fuzzy systems. Furthermore, it presents the use of H guaranteed cost control for both timedelayed switched fuzzy systems and time-delayed switched fuzzy stochastic systems with intermittent actuator and sensor faults. Finally, the problem of delay-dependent finite-time fault-tolerant control for uncertain switched T-S fuzzy systems with multiple time-varying delays, intermittent process faults and intermittent sensor faults is studied. The research on fault estimation and tolerant control has drawn attention from engineers and scientists in various fields such as electrical, mechanical, aerospace, chemical, and nuclear engineering. The book provides a comprehensive framework for this topic, placing a strong emphasis on the importance of stability analysis and the impact of result conservatism on the design and implementation of observers and controllers. It is intended for undergraduate and graduate students interested in fault diagnosis and tolerant control technology, researchers studying time-varying delayed T-S fuzzy systems, and observer/controller design engineers working on system stability applications.