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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Background on Nonlinear Systems and Control -- Integrated Fault-Detection and Fault-Tolerant Control -- Integrated Fault-Detection and Isolation and Fault-Tolerant Control -- Safe-Parking -- Fault Diagnosis and Robust Safe-Parking -- Utilizing FDI Insights in Controller Design and PID Monitoring -- Isolation and Handling of Sensor Faults -- Control and Fault-Handling Subject to Asynchronous Measurements.
	Sommario/riassunto	Fault-Tolerant Process Control focuses on the development of general, yet practical, methods for the design of advanced fault-tolerant control systems; these ensure an efficient fault detection and a timely response to enhance fault recovery, prevent faults from propagating or developing into total failures, and reduce the risk of safety hazards. To this end, methods are presented for the design of advanced fault-tolerant control systems for chemical processes which explicitly deal with actuator/controller failures and sensor faults and data losses. Specifically, the book puts forward: · a framework for detection, isolation and diagnosis of actuator and sensor faults for nonlinear systems; · controller reconfiguration and safe-parking-based fault-handling methodologies; · integrated-data- and model-based fault-detection and isolation and fault-tolerant control methods; · methods for handling sensor faults and data losses; and

·   methods for monitoring the performance of low-level PID loops. The methodologies proposed employ nonlinear systems analysis, Lyapunov techniques, optimization, statistical methods and hybrid systems theory and are predicated upon the idea of integrating fault-detection, local feedback control, and supervisory control. The applicability and performance of the methods are demonstrated through a number of chemical process examples. Fault-Tolerant Process Control is a valuable resource for academic researchers, industrial practitioners as well as graduate students pursuing research in this area.