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Titolo	Building a Low-Carbon Future : Adaptive Control Strategies for Distributed Energy Networks // by Jiayue Sun, Meina Zhai, Shu Liu, Peng Shi
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Cooperative Event-Triggered Fault-Tolerant Voltage -- Fully Distributed Fault-Tolerant Event-Triggered Control -- Output-Feedback Consensus Fault-Tolerant Control -- Secondary Load Voltage and Frequency Fault-Tolerant -- Distributed Critical Bus Voltage Regulation Control for.
Sommario/riassunto	This book aims to emphasize the state-of-the-art research in realizing the optimal synthesis of microgrid voltage regulation problems using adaptive multi-agent control theory. The contents of this book are divided into four parts. The book describes the microgrid voltage regulation model construction. Building upon this foundation, the book investigates fault-tolerant and event-triggered control problems under different constraints. The effectiveness and applicability of the design methods are verified by simulation arithmetic and applications. The key features of this book are summarized as follows. 1) Development of a unified modeling framework for the analysis and design of voltage regulation protocols. 2) Utilization of a novel approach to analyze

microgrid secondary control systems, addressing various issues such as event triggering and fault-tolerant control problems. 3) A set of newly developed techniques (e.g., Lyapunov stability theory, LMI techniques) is used to address emerging voltage regulation challenges. This book is a timely reflection of developments in the new field of integrated theory of voltage regulation and multi-agent system control for microgrids. It serves as a comprehensive collection of the latest research findings, making it a valuable textbook for senior and graduate students who are interested in acquiring knowledge about the following: 1) the latest techniques in microgrid voltage regulation; 2) the latest advances in multi-agent system control; and 3) the latest advances in stability/performance analysis, tracking control, fault-tolerant control, event-triggered control, and adaptive control. The content of this monograph is divided into six parts. 1) Part one studies the classical problems of microgrid control and multi-agent control. 2) Part two focuses on the event-triggered fault-tolerant voltage restoration problem for islanded microgrids. 3) Part three addresses the fully distributed fault-tolerant secondary event-triggered control of microgrids under directed graphs. 4) Part four examines the output feedback-based fault-tolerant load voltage regulation problem using intermittent communication. 5) Part five presents the secondary load voltage and frequency regulation control based on hierarchical fault-tolerant containment control. 5) Part six investigates the distributed critical bus voltage regulation control problem for multiple microgrids with a positive minimum inter-event time.
