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Titolo	Power Systems Cybersecurity : Methods, Concepts, and Best Practices / Hassan Haes Alhelou, Nikos Hatziargyriou, and Zhao Yang Dong, editors
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Soggetti	Electric power systems Security measures
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. A comprehensive review on cyber-attack detection and control of microgrid systems -- Chapter 2. Cyber Vulnerabilities of Modern Power Systems -- Chapter 3. Cyber-Physical Security in Smart Power Systems from a Resilience Perspective: Concepts and Possible Solutions -- Chapter 4. Cybersecurity Challenges in Microgrids: Inverter-Based Resources and Electric Vehicles -- Chapter 5. Improving Cybersecurity Situational Awareness in Smart Grid Environments -- Chapter 6. Hybrid Physics-Based and Data-driven Mitigation Strategy for Automatic Generation Control Under Cyber Attack -- Chapter 7. Data Driven Cybr Resilient Control of Wide Area Power Systems -- Chapter 8. Cyberattack-Resilient Control in Multi-Area Power Generation -- Chapter 9. Cyber-Security of Protection System in Power Grids - Part 1: Vulnerabilities and Counter-Measures -- Chapter 10. Cyber-Security of Protection System in Power Grids - Part 2: Case Studies on Securing Line Current Differential Relays -- Chapter 11. Semi-supervised deep learning-driven anomaly detection schemes for cyber-attack detection in smart grids -- Chapter 12. Vertical approach Anomaly Detection using Local Outlier Factor -- Chapter 13. A modular infrastructure for the validation of cyberattack detection systems -- Chapter 14. A novel self-learning cybersecurity system for smart grids -- Chapter 15. Cyber-resilience enhancement framework in smart grids

-- Chapter 16. SOAR4DER: Security Orchestration, Automation, and Response for Distributed Energy Resources -- Chapter 17. A Study on Cyber-Physical System Architecture for Smart Grids and Its Cyber Vulnerability -- Chapter 18. A Study on Cybersecurity Standards for Power Systems.

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Sommario/riassunto

This book covers power systems cybersecurity. In order to enhance overall stability and security in wide-area cyber-physical power systems and defend against cyberattacks, new resilient operation, control, and protection methods are required. The cyberattack-resilient control methods improve overall cybersecurity and stability in normal and abnormal operating conditions. By contrast, cyberattack-resilient protection schemes are important to keep the secure operation of a system under the most severe contingencies and cyberattacks. The main subjects covered in the book are: 1) proposing new tolerant and cyberattack-resilient control and protection methods against cyberattacks for future power systems, 2) suggesting new methods for cyberattack detection and cybersecurity assessment, and 3) focusing on practical issues in modern power systems.

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