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Soggetti	Energy systems Power electronics Electrical engineering Renewable energy resources Energy Systems Power Electronics, Electrical Machines and Networks Electrical Engineering Renewable and Green Energy
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Power System Control: An Overview -- Frequency Control and Real Power Compensation -- Frequency Response Characteristics and Dynamic Performance -- Robust PI-Based Frequency Control -- Robust Multi-Objective Control-Based Frequency Regulation -- Application of --Theory and MPC in Frequency Control Synthesis -- Frequency Control in Deregulated Environment -- Frequency Control in Emergency Conditions -- Renewable Energy Options and Frequency Regulation -- Wind Power and Frequency Control -- Frequency Control in Microgrids -- Virtual Inertia-Based Frequency Control.
Sommario/riassunto	This updated edition of the industry standard reference on power system frequency control provides practical, systematic and flexible algorithms for regulating load-frequency, offering new solutions to the technical challenges introduced by the escalating role of distributed generation and renewable energy sources in smart electric grids. The author emphasizes the physical constraints and practical engineering

issues related to frequency in a deregulated environment, while fostering a conceptual understanding of frequency regulation and robust control techniques. The resulting control strategies bridge the gap between advantageous robust controls and traditional power system design, and are supplemented by real-time simulations. The impacts of low inertia and damping effect on system frequency in the presence of increased distributed and renewable penetration are given particular consideration, as distributed/variable units with little or no rotating mass become dominant. Frequency stability and control issues relevant to the exciting new field of microgrids are also undertaken in this new edition. As frequency control becomes increasingly significant in the design of ever-more complex power systems, this expert guide ensures engineers are prepared to deploy smart grids with optimal functionality.

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