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Collana	Power Electronics and Power Systems, , 2196-3193
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Challenges in Risk Assessment, Modeling, and Simulation of Cascading Failures -- Industrial Practices and Criteria Against Cascading Failures -- Modeling of Cascading Failures and Blackouts Using Outage Data -- Interaction Models for Analysis and Mitigation of Cascading Failures -- Probabilistic Analytics on Cascading Failures -- Modeling Cascading Failures in Power Systems: Quasi-Steady-State Models and Dynamic Models -- Multi-Timescale Modeling, Risk Assessment, and Mitigation of Cascading Failures -- Quasi-Steady-State Simulation of Cascading Failures Considering Frequency.
Sommario/riassunto	Cascading failures as long chains of events and outages are threats to reliable operations of power grids and can lead to catastrophic blackouts with tremendous losses if not understood, prevented, or mitigated sufficiently. This book provides an in-depth and comprehensive presentation of emerging methods for risk assessment,

modeling, and simulation of cascading failures in power grids. The methods are all supported by theories and experimental tests using realistic power grid models and data, and the contributors to this volume are leading scholars in the field. Specific topics covered include an introduction to cascading failures, probabilistic analytics of utility outage data and risks, quantitative influence and interaction models to understand and mitigate failure propagation, simulation of cascading failures using models of multiple time scales, and industrial criteria and practices against cascading failures. Cascading Failures in Power Grids: Risk Assessment,Modeling, and Simulation will provide comprehensive and in-depth coverage of state-of-the-art methods for all readers interested in cascading failures and will inspire researchers and engineers to develop emerging and practical tools in the future. The first book about risk assessment, modeling, and simulation of cascading failures in power grids; Covers both state-of-the-art methods and best industrial practices; All contributors are experts and active scholars in the field.