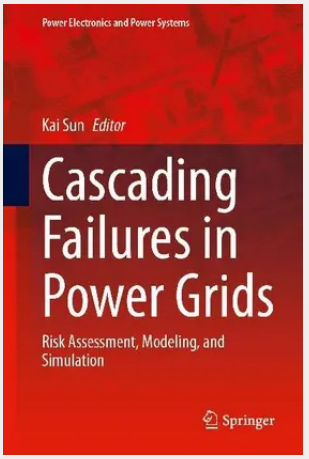
Sun

Cascading Failures in Power Grids

Risk Assessment, Modeling, and Simulation



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.

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. ¿

128,39 €
119,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031479991
Medium: Buch
ISBN: 978-3-031-47999-1
Verlag: Palgrave Macmillan
Erscheinungstermin: 17.02.2024
Sprache(n): Englisch
Auflage: 1. Auflage 2024
Serie: Power Electronics and Power Systems
Produktform: Gebunden
Gewicht: 659 g
Seiten: 311
Format (B x H): 160 x 241 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)