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Descrizione fisica	1 online resource (xxi, 585 pages)
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Soggetti	Electric power systems Textbooks.
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Steady-state power flow -- Steady-state voltage stability analysis -- Power system dynamics and simulation -- Direct transient stability analysis -- Linear analysis and small-signal stability -- Steady-state models and operation of synchronous machines -- Dynamic models of synchronous machines -- Excitation systems -- Power system stabilizers -- Load and induction motor models -- Turbine-governor models and frequency control -- High-voltage direct current transmission systems -- Flexible AC transmission systems -- Wind power generation and modeling -- Power system coherency and model reduction.
Sommario/riassunto	"The proposed book is intended to be used as a two-semester graduate level textbook on power system dynamics and controls. The material is based two graduate level courses taught at RPI (ECSE 6190 Computer Methods for Electric Power Engineering and ECSE 6180 Advanced Power System Modeling and Control) that have been taught since 2009. The first 10 chapters (power flow solution, voltage stability, simulation methods, transient stability, small signal stability, synchronous machine models (steady-state and dynamic models), excitation systems, power system stabilizer design) are taught in 6190, and the

other 7 chapters are taught in 6180. The two courses, and hence this book, are intended to provide power students with an understanding of the practices in power system stability analysis and control design, as well as the computational tools being used and provided by commercial vendors"--