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Descrizione fisica	1 online resource (XVII, 713 p. 43 illus.)
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Disciplina	519.2
Soggetti	Probabilities Statistics Probability Theory and Stochastic Processes Statistical Theory and Methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction.-Warming Up -- Integration Theory for Probability -- Probability and Expectation -- Convergence of random sequences -- Markov Chains -- Martingale Sequences -- Ergodic Sequences -- Generalities on Stochastic Processes -- Poisson Processes -- Continuous-Time Markov Chains -- Renewal Theory in Continuous Time -- Brownian Motion -- Wide-sense Stationary Stochastic Processes -- An Introduction to Itô's Calculus -- Appenndix: Number Theory and Linear Algebra -- Analysis -- Hilbert Spaces -- Z-Transforms -- Proof of Paul Lévy's Criterion -- Direct Riemann Integrability -- Bibliography -- Index. .
Sommario/riassunto	The ultimate objective of this book is to present a panoramic view of the main stochastic processes which have an impact on applications, with complete proofs and exercises. Random processes play a central role in the applied sciences, including operations research, insurance, finance, biology, physics, computer and communications networks, and signal processing. In order to help the reader to reach a level of technical autonomy sufficient to understand the presented models, this book includes a reasonable dose of probability theory. On the other hand, the study of stochastic processes gives an opportunity to apply the main theoretical results of probability theory beyond classroom

examples and in a non-trivial manner that makes this discipline look more attractive to the applications-oriented student. One can distinguish three parts of this book. The first four chapters are about probability theory, Chapters 5 to 8 concern random sequences, or discrete-time stochastic processes, and the rest of the book focuses on stochastic processes and point processes. There is sufficient modularity for the instructor or the self-teaching reader to design a course or a study program adapted to her/his specific needs. This book is in a large measure self-contained.
