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Autore	Borodin A. N
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Nota di contenuto	Preface -- Notations -- Basic facts -- Stochastic calculus -- Distributions of functionals of Brownian motion -- Diffusion processes -- Brownian local time -- Diffusions with jumps -- Invariance principle for random walks and local times -- Appendix 1. Heat transfer problem -- Appendix 2. Special functions -- Appendix 3. Inverse Laplace transforms -- Appendix 4. Differential equations and their solutions -- Appendix 5. Examples of transformations of measures associated with diffusion processes -- Appendix 6. Formulae for n-fold differentiation -- Bibliography -- Subject index.
Sommario/riassunto	This book provides a rigorous yet accessible introduction to the theory of stochastic processes. A significant part of the book is devoted to the classic theory of stochastic processes. In turn, it also presents proofs of well-known results, sometimes together with new approaches. Moreover, the book explores topics not previously covered elsewhere, such as distributions of functionals of diffusions stopped at different random times, the Brownian local time, diffusions with jumps, and an invariance principle for random walks and local times. Supported by carefully selected material, the book showcases a wealth of examples that demonstrate how to solve concrete problems by applying theoretical results. It addresses a broad range of applications, focusing on concrete computational techniques rather than on abstract theory. The content presented here is largely self-contained, making it suitable for researchers and graduate students alike.