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Nota di contenuto	Cover; Half-title; Series-title; Title; Copyright; Dedication; Contents; Preface; Overview; Notation; 1 Levy processes; 2 Martingales, stopping times and random measures; 3 Markov processes, semigroups and generators; 4 Stochastic integration; 5 Exponential martingales, change of measure and financial applications; 6 Stochastic differential equations; References; Index of notation; Subject index
Sommario/riassunto	Levy processes form a wide and rich class of random process, and have many applications ranging from physics to finance. Stochastic calculus is the mathematics of systems interacting with random noise. For the first time in a book, Applebaum ties the two subjects together. He begins with an introduction to the general theory of Levy processes. The second part develops the stochastic calculus for Levy processes in a direct and accessible way. En route, the reader is introduced to

important concepts in modern probability theory, such as martingales, semimartingales, Markov and Feller processes, semigroups and generators, and the theory of Dirichlet forms. There is a careful development of stochastic integrals and stochastic differential equations driven by Levy processes. The book introduces all the tools that are needed for the stochastic approach to option pricing, including Ito's formula, Girsanov's theorem and the martingale representation theorem.
