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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Potential theory and isoperimetric inequalities -- Basic definitions and preliminaries -- Some elements of potential theory -- Isoperimetric inequalities -- Polynomial volume growth -- Local theory -- Motivation of the local approach -- Einstein relation -- Upper estimates -- Lower estimates -- Two-sided estimates -- Closing remarks -- Parabolic Harnack inequality -- Semi-local theory.
Sommario/riassunto	Einstein proved that the mean square displacement of Brownian motion is proportional to time. He also proved that the diffusion constant depends on the mass and on the conductivity (sometimes referred to Einstein's relation). The main aim of this book is to reveal similar connections between the physical and geometric properties of space and diffusion. This is done in the context of random walks in the absence of algebraic structure, local or global spatial symmetry or self-similarity. The author studies the heat diffusion at this general level and discusses the following topics: The multiplicative Einstein relation, Isoperimetric inequalities, Heat kernel estimates Elliptic and parabolic Harnack inequality. .