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Autore	Burdzy, Krzysztof
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Sommario/riassunto	These lecture notes provide an introduction to the applications of Brownian motion to analysis and, more generally, connections between Brownian motion and analysis. Brownian motion is a well-suited model for a wide range of real random phenomena, from chaotic oscillations of microscopic objects, such as flower pollen in water, to stock market fluctuations. It is also a purely abstract mathematical tool which can be used to prove theorems in "deterministic" fields of mathematics. The notes include a brief review of Brownian motion and a section on probabilistic proofs of classical theorems in analysis. The bulk of the

notes are devoted to recent (post-1990) applications of stochastic analysis to Neumann eigenfunctions, Neumann heat kernel and the heat equation in time-dependent domains