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Descrizione fisica	1 online resource (xvi, 379 pages) : digital, PDF file(s)
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Nota di bibliografia	Includes bibliographical references (p. 358-375) and index.
Nota di contenuto	Theory in Spaces of Continuous Functions -- Gaussian measures -- Introduction and preliminaries -- Definition and first properties of Gaussian measures -- Measures in metric spaces -- Gaussian measures -- Computation of some Gaussian integrals -- The reproducing kernel -- Absolute continuity of Gaussian measures -- Equivalence of product measures in R[superscript [infinity] -- The Cameron-Martin formula -- The Feldman-Hajek theorem -- Brownian motion -- Spaces of continuous functions -- Preliminary results -- Approximation of continuous functions -- Interpolation spaces -- Interpolation between UC[subscript b](H) and UC[superscript 1 subscript b](H) -- Interpolatory estimates -- Additional interpolation results -- The heat equation -- Strict solutions -- Regularity of generalized solutions -- Q-derivatives -- Q-derivatives of generalized solutions -- Comments on the Gross Laplacian -- The heat semigroup and its generator -- Poisson's equation -- Existence and uniqueness

	results -- Regularity of solutions -- The equation [Delta subscript Q]u = g -- The Liouville theorem -- Elliptic equations with variable coefficients -- Small perturbations -- Large perturbations -- Ornstein-Uhlenbeck equations -- Existence and uniqueness of strict solutions -- Classical solutions -- The Ornstein-Uhlenbeck semigroup -- [pi]-Convergence -- Properties of the [pi]-semigroup (R[subscript t]) -- The infinitesimal generator -- Elliptic equations -- Schauder estimates -- The Liouville theorem -- Perturbation results for parabolic equations.
Sommario/riassunto	Second order linear parabolic and elliptic equations arise frequently in mathematics and other disciplines. For example parabolic equations are to be found in statistical mechanics and solid state theory, their infinite dimensional counterparts are important in fluid mechanics, mathematical finance and population biology, whereas nonlinear parabolic equations arise in control theory. Here the authors present a state of the art treatment of the subject from a new perspective. The main tools used are probability measures in Hilbert and Banach spaces and stochastic evolution equations. There is then a discussion of how the results in the book can be applied to control theory. This area is developing very rapidly and there are numerous notes and references that point the reader to more specialised results not covered in the book. Coverage of some essential background material will help make the book self-contained and increase its appeal to those entering the subject.