1. Record Nr. UNINA9910438145603321

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Titolo	Functionals of multidimensional diffusions with applications to finance / / Jan Baldeaux, Eckhard Platen
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , 2013
ISBN	3-319-00747-5
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xxiii, 425 pages) : illustrations (some color)
Collana	Bocconi & Springer Series, Mathematics, Statistics, Finance and Economics, , 2039-1471 ; ; 5
Disciplina	519.233
Soggetti	Diffusion processes Business mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 2039-1471."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 A Benchmark Approach to Risk Management -- 2 Functionals of Wiener Processes -- 3 Functionals of Squared Bessel Processes -- 4 Lie Symmetry Group Methods -- 5 Transition Densities via Lie Symmetry Methods -- 6 Exact and Almost Exact Simulation -- 7 Affine Diffusion Processes on the Euclidean Space -- 8 Pricing Using Affine Diffusions -- 9 Solvable Affine Processes on the Euclidean State Space -- 10 An Introduction to Matrix Variate Stochastics -- 11 Wishart Processes -- 12 Monte Carlo and Quasi-Monte Carlo Methods -- 13 Computational Tools -- 14 Credit Risk under the Benchmark Approach -- A Continuous Stochastic Processes -- B Time-Homogeneous Scalar Diffusions -- C Detecting Strict Local Martingales.
Sommario/riassunto	This research monograph provides an introduction to tractable multidimensional diffusion models, where transition densities, Laplace transforms, Fourier transforms, fundamental solutions or functionals can be obtained in explicit form. The book also provides an introduction to the use of Lie symmetry group methods for diffusions, which allows to compute a wide range of functionals. Besides the well-known methodology on affine diffusions it presents a novel approach to affine processes with applications in finance. Numerical methods, including Monte Carlo and quadrature methods, are discussed together with supporting material on stochastic processes. Applications in finance, for instance, on credit risk and credit valuation adjustment are

included in the book. The functionals of multidimensional diffusions analyzed in this book are significant for many areas of application beyond finance. The book is aimed at a wide readership, and develops an intuitive and rigorous understanding of the mathematics underlying the derivation of explicit formulas for functionals of multidimensional diffusions.