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Note generali	"Contains contributed papers of selected speakers of the International Conference "Modern Stochastics: Theory and Applications III.", held on September 10-14, 2012, at Taras Shevchenko National University of Kyiv, Ukraine"--Preface.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Part I: Probability Distributions in Applications.-Comparing Brownian stochastic integrals for the convex order (Yor, Hirsch) -- Application of -sub-Gaussian random processes in queueing theory (Kozachenko, Yamnenko) -- A review on time-changed pseudo processes and the

related distributions (Orsingher) -- Reciprocal processes: a stochastic analysis approach (Roelly). Part II: Stochastic Equations -- Probabilistic counterparts of nonlinear parabolic PDE systems (Belopolskaya) -- Finite-time blowup and existence of global positive solutions of semilinear SPDE's with fractional noise (Dozzi, Kolkovska, López-Mimbela) -- Hydrodynamics and SDE with Sobolev coefficients (Fang) -- Elementary pathwise methods for non-linear parabolic and transport type SPDE with fractal noise (Hinz, Issoglio, Zähle) -- SPDE's driven by general stochastic measures (Radchenko). Part III: Limit Theorems -- Exponential convergence of multi-dimensional stochastic mechanical systems with switching (Anulova, Veretennikov) -- Asymptotic behaviour of the distribution density of the fractional Lévy motion (Kulik, Knopova).-Large deviations for random evolutions in the scheme of asymptotically small diffusion (Koroliuk, Samoilenko) -- Limit theorems for excursion sets of stationary random fields (Spodarev). Part IV: Finance and Risk -- Ambit processes, their volatility determination and their applications (Corcuera, Farkas, Valdivia) -- Some functional analytic tools for utility maximization (Gushchin, Khasanov, Morozov) -- Maximization of the survival probability by franchise and deductible amounts in the classical risk model (Ragulina). Part V: Statistics.-Asymptotic properties of drift parameter estimator based on discrete observations of stochastic differential equation driven by fractional Brownian motion (Mishura, Ralchenko, Seleznev, Shevchenko) -- Minimum contrast method for parameter estimation in the spectral domain (Sakhno) -- Conditional estimators in exponential regression with errors incovariates (Shklyar).

Sommario/riassunto

This volume presents an extensive overview of all major modern trends in applications of probability and stochastic analysis. It will be a great source of inspiration for designing new algorithms, modeling procedures, and experiments. Accessible to researchers, practitioners, as well as graduate and postgraduate students, this volume presents a variety of new tools, ideas, and methodologies in the fields of optimization, physics, finance, probability, hydrodynamics, reliability, decision making, mathematical finance, mathematical physics, and economics. Contributions to this Work include those of selected speakers from the international conference entitled "Modern Stochastics: Theory and Applications III," held on September 10 –14, 2012 at Taras Shevchenko National University of Kyiv, Ukraine. The conference covered the following areas of research in probability theory and its applications: stochastic analysis, stochastic processes and fields, random matrices, optimization methods in probability, stochastic models of evolution systems, financial mathematics, risk processes and actuarial mathematics, and information security. .