

# Contents

## Part I Probability Distributions in Applications

<b>Comparing Brownian Stochastic Integrals for the Convex Order</b> .....	3
Francis Hirsch and Marc Yor	
<b>Application of <math>\varphi</math>-Sub-Gaussian Random Processes in Queueing Theory</b> .....	21
Yuriy V. Kozachenko and Rostyslav E. Yamnenko	
<b>A Review on Time-Changed Pseudoprocesses and Related Distributions</b> .....	39
Enzo Orsingher	
<b>Reciprocal Processes: A Stochastic Analysis Approach</b> .....	53
Sylvie Rœlly	

## Part II Stochastic Equations

<b>Probabilistic Counterparts of Nonlinear Parabolic Partial Differential Equation Systems</b> .....	71
Yana I. Belopolskaya	
<b>Finite-Time Blowup and Existence of Global Positive Solutions of a Semi-linear Stochastic Partial Differential Equation with Fractional Noise</b> .....	95
M. Dozzi, E.T. Kolkovska, and J.A. López-Mimbela	
<b>Hydrodynamics and Stochastic Differential Equation with Sobolev Coefficients</b> .....	109
Shizan Fang	

<b>Elementary Pathwise Methods for Nonlinear Parabolic and Transport Type Stochastic Partial Differential Equations with Fractal Noise</b> .....	123
Michael Hinz, Elena Issoglio, and Martina Zähle	
<b>Stochastic Partial Differential Equations Driven by General Stochastic Measures</b> .....	143
Vadym Radchenko	
<b>Part III Limit Theorems</b>	
<b>Exponential Convergence of Degenerate Hybrid Stochastic Systems with Full Dependence</b> .....	159
Svetlana V. Anulova and Alexander Yu. Veretennikov	
<b>Asymptotic Behaviour of the Distribution Density of the Fractional Lévy Motion</b> .....	175
Victoria P. Knopova and Alexey M. Kulik	
<b>Large Deviations for Random Evolutions in the Scheme of Asymptotically Small Diffusion</b> .....	203
Volodymyr S. Korolyuk and Igor V. Samoilenko	
<b>Limit Theorems for Excursion Sets of Stationary Random Fields</b> .....	221
Evgeny Spodarev	
<b>Part IV Finance and Risk</b>	
<b>Ambit Processes, Their Volatility Determination and Their Applications</b> .....	245
José Manuel Corcuera, Gergely Farkas, and Arturo Valdivia	
<b>Some Functional Analytic Tools for Utility Maximization</b> .....	267
Alexander A. Gushchin, Ruslan V. Khasanov, and Ivan S. Morozov	
<b>Maximization of the Survival Probability by Franchise and Deductible Amounts in the Classical Risk Model</b> .....	287
Olena Ragulina	
<b>Part V Statistics</b>	
<b>Asymptotic Properties of Drift Parameter Estimator Based on Discrete Observations of Stochastic Differential Equation Driven by Fractional Brownian Motion</b> .....	303
Yuliya Mishura, Kostiantyn Ral'chenko, Oleg Seleznev, and Georgiy Shevchenko	

**Minimum Contrast Method for Parameter Estimation in the Spectral Domain**..... 319  
Lyudmyla Sakhno

**Conditional Estimators in Exponential Regression with Errors in Covariates** ..... 337  
Sergiy Shklyar

Modern Stochastics and Applications

Korolyuk, V.; Limnios, N.; Mishura, Y.; Sakhno, L.;

Shevchenko, G. (Eds.)

2014, XVII, 349 p. 2 illus., 1 illus. in color., Hardcover

ISBN: 978-3-319-03511-6