
Contents

Extremals Flows and Infinite Horizon Optimization <i>Andrei A. Agrachev, Francesca C. Chittaro</i>	1
Laplace Transforms and the American Call Option <i>Ghada Alobaidi, Roland Mallier</i>	15
Time Change, Volatility, and Turbulence <i>Ole E. Barndorff-Nielsen, Jürgen Schmiegel</i>	29
External Dynamical Equivalence of Analytic Control Systems <i>Zbigniew Bartosiewicz, Ewa Pawłuszewicz</i>	55
On Option-Valuation in Illiquid Markets: Invariant Solutions to a Nonlinear Model <i>Ljudmila A. Bordag</i>	71
Predicting the Time of the Ultimate Maximum for Brownian Motion with Drift <i>Jacques du Toit, Goran Peskir</i>	95
A Stochastic Demand Model for Optimal Pricing of Non-Life Insurance Policies <i>Paul Emms</i>	113
Optimality of Deterministic Policies for Certain Stochastic Control Problems with Multiple Criteria and Constraints <i>Eugene A. Feinberg</i>	137
Higher-Order Calculus of Variations on Time Scales <i>Rui A. C. Ferreira, Delfim F. M. Torres</i>	149

VIII Contents

Finding Invariants of Group Actions on Function Spaces, a General Methodology from Non-Abelian Harmonic Analysis <i>Jean-Paul Gauthier, Fethi Smach, Cedric Lemaître, Johel Miteran</i>	161
Nonholonomic Interpolation for Kinematic Problems, Entropy and Complexity <i>Jean-Paul Gauthier, Vladimir Zakalyukin</i>	187
Instalment Options: A Closed-Form Solution and the Limiting Case <i>Susanne Griebisch, Christoph Kühn, Uwe Wystup</i>	211
Existence and Lipschitzian Regularity for Relaxed Minimizers <i>Manuel Guerra, Andrey Sarychev</i>	231
Pricing of Defaultable Securities under Stochastic Interest <i>Nino Kordzakhia, Alexander Novikov</i>	251
Spline Cubatures for Expectations of Diffusion Processes and Optimal Stopping in Higher Dimensions (with Computational Finance in View) <i>Andrew Lyasoff</i>	265
An Approximate Solution for Optimal Portfolio in Incomplete Markets <i>Francesco Menoncin</i>	293
Carleman Linearization of Linearly Observable Polynomial Systems <i>Dorota Mozyrska, Zbigniew Bartosiewicz</i>	311
Observability of Nonlinear Control Systems on Time Scales - Sufficient Conditions <i>Ewa Pawłuszewicz</i>	325
Sufficient Optimality Conditions for a Bang-bang Trajectory in a Bolza Problem <i>Laura Poggiolini, Marco Spadini</i>	337
Modelling Energy Markets with Extreme Spikes <i>Thorsten Schmidt</i>	359
Generalized Bayesian Nonlinear Quickest Detection Problems: On Markov Family of Sufficient Statistics <i>Albert N. Shiryaev</i>	377
Necessary Optimality Condition for a Discrete Dead Oil Isotherm Optimal Control Problem <i>Moulay Rachid Sidi Ammi, Delfim F. M. Torres</i>	387

Managing Operational Risk: Methodology and Prospects	
<i>Grigory Temnov</i>	397

Mathematical Control Theory and Finance

Sarychev, A.; Shiryaev, A.; Guerra, M.; Grossinho, M.d.R.

(Eds.)

2008, XIII, 420 p.,

ISBN: 978-3-540-69532-5