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| 1. Record Nr. | UNINA9910464108703321 |
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| Titolo | Modeling and pricing of swaps for financial and energy markets with stochastic volatilities [[electronic resource] /] / Anatoliy Swishchuk |
| Pubbl/distr/stampa | Teaneck, NJ, : World Scientific, c2013 |
| ISBN | 981-4440-13-2 |
| Descrizione fisica | 1 online resource (326 p.) |
| Disciplina | 332.64/5 |
| Soggetti | Swaps (Finance) - Mathematical models Finance - Mathematical models Stochastic processes Electronic books. |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Preface; Acknowledgments; Contents; 1. Stochastic Volatility; 1.1 Introduction; 1.2 Non-Stochastic Volatilities; 1.2.1 Historical Volatility; 1.2.2 Implied Volatility; 1.2.3 Level-Dependent Volatility and Local Volatility; 1.3 Stochastic Volatility; 1.3.1 Approaches to Introduce Stochastic Volatility; 1.3.2 Discrete Models for Stochastic Volatility; 1.3.3 Jump-Diffusion Volatility; 1.3.4 Multi-Factor Models for Stochastic Volatility; 1.4 Summary; Bibliography; 2. Stochastic Volatility Models; 2.1 Introduction; 2.2 Heston Stochastic Volatility Model; 2.3 Stochastic Volatility with Delay 2.4 Multi-Factor Stochastic Volatility Models 2.5 Stochastic Volatility Models with Delay and Jumps; 2.6 Levy-Based Stochastic Volatility with Delay; 2.7 Delayed Heston Model; 2.8 Semi-Markov-Modulated Stochastic Volatility; 2.9 COGARCH(1,1) Stochastic Volatility Model; 2.10 Stochastic Volatility Driven by Fractional Brownian Motion; 2.10.1 Stochastic Volatility Driven by Fractional Ornstein-Uhlenbeck Process; 2.10.2 Stochastic Volatility Driven by Fractional Vasicek Process; 2.10.3 Markets with Stochastic Volatility Driven by Geometric Fractional Brownian Motion 2.10.4 Stochastic Volatility Driven by Fractional Continuous- Time GARCH Process 2.11 Mean-Reverting Stochastic Volatility Model (Continuous-Time GARCH Model) in Energy Markets; 2.12 Summary; |

Bibliography; 3. Swaps; 3.1 Introduction; 3.2 Definitions of Swaps; 3.2.1 Variance and Volatility Swaps; 3.2.2 Covariance and Correlation Swaps; 3.2.3 Pseudo-Swaps; 3.3 Summary; Bibliography; 4. Change of Time Methods; 4.1 Introduction; 4.2 Descriptions of the Change of Time Methods; 4.2.1 The General Theory of Time Changes; 4.2.1.1 Martingale and Semimartingale Settings of Change of Time; 4.2.1.2 Stochastic Differential Equations Setting of Change of Time; 4.2.2 Subordinators as Time Changes; 4.2.2.1 Subordinators; 4.2.2.2 Subordinators and Stochastic Volatility; 4.3 Applications of Change of Time Method; 4.3.1 Black-Scholes by Change of Time Method; 4.3.2 An Option Pricing Formula for a Mean-Reverting Asset Model Using a Change of Time Method; 4.3.3 Swaps by Change of Time Method in Classical Heston Model; 4.3.4 Swaps by Change of Time Method in Delayed Heston Model; 4.4 Different Settings of the Change of Time Method; 4.4.0.1 Change of Time Method in Martingale Setting; 4.4.0.2 Change of Time Method in Stochastic Differential Equation Setting; 4.4.0.3 Examples: Solutions of Some SDEs; 4.5 Summary; Bibliography; 5. Black-Scholes Formula by Change of Time Method; 5.1 Introduction; 5.2 Black-Scholes Formula by Change of Time Method; 5.2.1 Black-Scholes Formula; 5.2.2 Solution of SDE for Geometric Brownian Motion using Change of Time Method; 5.2.3 Properties of the Process $W(t-1)$; 5.3 Black-Scholes Formula by Change of Time Method; 5.4 Summary; Bibliography; 6. Modeling and Pricing of Swaps for Heston Model; 6.1 Introduction; 6.2 Variance and Volatility Swaps; 6.2.1 Variance and Volatility Swaps for Heston Model

Sommario/riassunto

Modeling and Pricing of Swaps for Financial and Energy Markets with Stochastic Volatilities is devoted to the modeling and pricing of various kinds of swaps, such as those for variance, volatility, covariance, correlation, for financial and energy markets with different stochastic volatilities, which include CIR process, regime-switching, delayed, mean-reverting, multi-factor, fractional, Levy-based, semi-Markov and COGARCH(1,1). One of the main methods used in this book is change of time method. The book outlines how the change of time method works for different kinds of models and problems a
