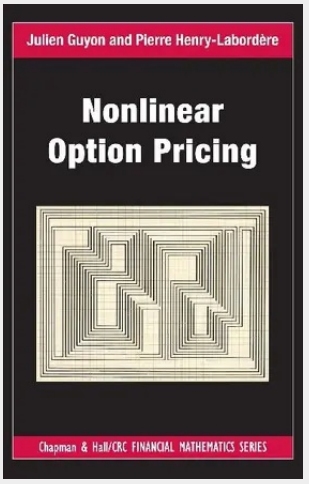
Guyon / Henry-Labordere

Nonlinear Option Pricing

Collecting many methods that have previously been scattered in the literature, this book presents advanced techniques for solving high-dimensional nonlinear problems arising in quantitative finance. Designed for practitioners, it is the first monograph dedicated to nonlinear option pricing. The authors explain regression and dual methods for American and chooser options, the Monte Carlo approach for pricing the uncertain volatility model and the uncertain lapse and mortality model, the particle method to calibrate local stochastic volatility models and local correlation models to market smiles, and stochastic representations based on marked branching diffusions.

New Tools to Solve Your Option Pricing ProblemsFor nonlinear PDEs encountered in quantitative finance, advanced probabilistic methods are needed to address dimensionality issues. Written by two leaders in quantitative research-including Risk magazine's 2013 Quant of the Year-Nonlinear Option Pricing compares various numerical methods for solving high-dimensional nonlinear problems arising in option pricing. Designed for practitioners, it is the first authored book to discuss nonlinear Black-Scholes PDEs and compare the efficiency of many different methods. Real-World Solutions for Quantitative Analysts The book helps quants develop both their analytical and numerical expertise. It focuses on general mathematical tools rather than specific financial questions so that readers can easily use the tools to solve their own nonlinear problems. The authors build intuition through numerous real-world examples of numerical implementation. Although the focus is on ideas and numerical examples, the authors introduce relevant mathematical notions and important results and proofs. The book also covers several original approaches, including regression methods and dual methods for pricing chooser options, Monte Carlo approaches for pricing in the uncertain volatility model and the uncertain lapse and mortality model, the Markovian projection method and the particle method for calibrating local stochastic volatility models to market prices of vanilla options with/without stochastic interest rates, the a + b¿ technique for building local correlation models that calibrate to market prices of vanilla options on a basket, and a new stochastic representation of nonlinear PDE solutions based on marked branching diffusions.



248,20 €
248,20 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781466570337
Medium: Buch
ISBN: 978-1-4665-7033-7
Verlag: Chapman and Hall/CRC
Erscheinungstermin: 19.12.2013
Sprache(n): Englisch
Auflage: 1. Auflage 2013
Serie: Chapman and Hall/CRC Financial Mathematics Series
Produktform: Gebunden
Gewicht: 889 g
Seiten: 484
Format (B x H): 161 x 240 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)