URN etd-0407109-183722-1782
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Statistics This thesis had been viewed 52 times. Download 0 times.
Department
Year 2006
Semester 2
Degree Master
Type of Document Master's Thesis
Language English
Title American Option Pricing Under Stochastic Volatility
Date of Defense 0000-00-00
Page Count 57
Keyword
Stochastic Volatility (SV)
American Option
Finite Different Method (FDM)
Free Boundary
Fast Fourier Transform (FFT)
Crank-Nicolson Method

Abstract
The main objective of this dissertation is to investigate the effectiveness of finite difference method (FDM) for pricing different options under Heston stochastic volatility model (1993). FDM is firstly used for pricing European and American options and its results compared with published works to validate the correctness of its implementation; then, acting on Heston model parameters, a sensitivity analysis of American options free boundaries, is performed. This free boundary analysis helps to explain the risk of parametric uncertainty.
Advisory Committee - advisor

Files No Any Full Text File.
Date of Submission 2007-07-06