Financial Models with Levy Processes and Volatility Clustering
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DESCRIPTION

An in-depth guide to understanding probability distributions and financial modeling for the purposes of investment management

In Financial Models with Levy Processes and Volatility Clustering, the expert author team provides a framework to model the behavior of stock returns in both a univariate and a multivariate setting, providing you with practical applications to option pricing and portfolio management. They also explain the reasons for working with non-normal distribution in financial modeling and the best methodologies for employing it.

The book's framework includes the basics of probability distributions and explains the alpha-stable distribution and the tempered stable distribution. The authors also explore discrete time option pricing models, beginning with the classical normal model with volatility clustering to more recent models that consider both volatility clustering and heavy tails.

• Reviews the basics of probability distributions
• Analyzes a continuous time option pricing model (the so-called exponential Lévy model)
• Defines a discrete time model with volatility clustering and how to price options using Monte Carlo methods
• Studies two multivariate settings that are suitable to explain joint extreme events
Financial Models with Lévy Processes and Volatility Clustering is a thorough guide to classical probability distribution methods and brand new methodologies for financial modeling.

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