

<<金融数学中的随机变分法>>

图书基本信息

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### 内容概要

Stochastic Calculus of Variations (or Malliavin Calculus) consists, in brief, in constructing and exploiting natural differentiable structures on abstract Probability spaces; in other words, Stochastic Calculus of Variations proceeds from a merging of differential calculus and probability theory. As optimization under a random environment is at the heart of mathematical finance, and as differential calculus is of paramount importance for the search of extrema, it is not surprising that Stochastic Calculus of Variations appears in mathematical finance. The computation of price sensitivities (or Greeks) obviously belongs to the realm of differential calculus. Nevertheless, Stochastic Calculus of Variations was introduced relatively late in the mathematical finance literature: first in 1991 with the Ocone-Karatzas hedging formula, and soon after that, many other applications appeared in various other branches of mathematical finance; in 1999 a new impetus came from the works of P. L. Lions and his associates.

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### 编辑推荐

《金融数学中的随机变分法(英文版)》是一部金融数学名著，书中论述了随机分析理论及其与金融数学的关联性。

目次如下：Gaussian随机变分；Greeks计算与分布积分公式；市场均衡与价格-挥发度反馈率；多元条件与分布律的正则化；非椭圆市场与HJM模型的不稳定性内部贸易；渐近展开与弱收敛跳跃市场的随机变分。

附录：利用Fourier展式进行挥发评估；椭圆市场的Monte-Carlo逼近；价格-挥发度反馈率的数值执行。

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