<<金融中的数值方法和优化>>

图书基本信息

书名：<<金融中的数值方法和优化>>

13位ISBN编号：9787510052651

10位ISBN编号：7510052653

出版时间：2013-1

出版时间：世界图书出版公司

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内容概要

《金融中的数值方法和优化(英文)》旨在为读者介绍金融计算工具—基本数值分析和计算技巧，如期权定价、并突出了模拟和优化的重要性，用许多章讲述投资组合保险和风险估计问题。
特别地，有几章用于讲述优化探索和如何将他们应用于投资组合的选择、估值的校准和期权定价模型。
这些具体的例子让读者学习了解决问题的具体步骤，以及将这些步骤举一反三。
同时，这些应用使得《金融中的数值方法和优化(英文)》的参考价值大大提高。

作者简介

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书籍目录

章节摘录

版权页： 插图： When looking at these examples more closely, one can already spot some limitations of these methods for financial applications. The optimal solution for n +1 is usually not found by taking the solution for n and adding one extra point.Likewise, choosing the values for high n but using only some of them （e.g., because one runs out of time） will lead to a （systematic） bias.Hence, the designer has to decide in advance how many samples he or she wants to evaluate. Determining the draws for the multivariate case can become a tough optimization problem in its own right-even （and in particular） when the draws must be orthogonal （i.e., uncorrelated） in all dimensions.Fang, Tang, Maringer, and Winker （2006） provide bounds and show how heuristics can help in tackling this problem. Repeated experiments generate exactly the same sequence.On the one hand, this is good as it simplifies replicability.On the other hand, this is not so good because if an interesting spot in the range is missed once, then repeated experiments will not cover it either.Even more importantly, it is difficult to judge how stable the results are: Results with pseudorandom numbers will vary from experiment to experiment, but should converge with increasing sample size.If results are close together, this could indicate stability; if they are all over the place, then the resultsare obviously not very robust.With quasi-Monte Carlo numbers, theresults will be identical unless one changes n; and unless n changes dramatically （in particular when n is already high）, the variations in the points could be modest.In finance, one is often interested in extreme risks and rare events, and generating draws with QMC might lead to biased and unreliable results.

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