<<随机过程高级教程>>

图书基本信息

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前言

This Second Course continues the development of the theory and applications of stochastic processes as promised in the preface of A First Course. We emphasize a careful treatment of basic structures in stochastic processes in symbiosis with the analysis of natural classes of stochastic processes arising from the biological, physical, and social sciences. Apart from expanding on the topics treated in the first edition of this work but not incorporated in A First Course, this volume presents an extensive introductory account of the fundamental concepts and methodology of diffusion processes and the closely allied theory of stochastic differential equations and stochastic integrals. A multitude of physical, engineering, biological, social, and managerial phenomena are either well approximated or reasonably modeled by diffusion processes; and modern approaches to diffusion processes and stochastic differential equations provide new perspectives and techniques impinging on many subfields of pure and applied mathematics, among them partial differential equations, dynamical systems, optimal control problems, statistical decision procedures, operations research, studies of economic systems, population genetics, and ecology models. A new chapter discusses the elegant and far-reaching distributional formulas now available for a wide variety of functionas （e.g., first-passage time, maximum, order statistics, occupation time） of the process of sums of independent random variables. The identities, formulas, and results in this chapter have important appfications in queueing and renewal theory, for statistical decision procedures, and elsewhere.

内容概要

本书是人民邮电出版社影印和翻译出版的《随机过程初级教程》的姊妹篇，内容包括马尔可夫链的代数方法、转移概率的比定理及应用、连续时间马尔可夫链、扩散过程、复合随机过程、独立同分布随机变理部分和波动理论、排队过程等很多主题。
本书将理论与应用有机地结合在一起，取得了完美的平衡。
本书适用而广，可供数学、物理学、生物学、社会学、管理学和其他工程领域的理论研究者和实践者学习。

作者简介

Samuel Karlin，斯坦福大学荣休教授，国际著名的应用概率学家，美国科学院院士，数理统计学会会士。
1987年获冯·诺伊曼奖。
在生灭过程中计算平稳分布的Karlin-McGregor定理即以他的名字命名。

书籍目录

媒体关注与评论

“本书堪称随机过程教材的典范，非常透彻地讨论了所有重要的主题，应用丰富，习题非常具有挑战性。
”——Eric Slud，马里兰大学教授 “本书是通往华尔街的必备读物。
书中讨论的随机过程知识将为你理解期权定价打下坚实基础。
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