

# 《随机积分导论(第2版)(影印版)》

## 图书基本信息

书名 : 《随机积分导论(第2版)(影印版)》

13位ISBN编号 : 9787510070259

10位ISBN编号 : 7510070252

出版时间 : 2014-3

出版社 : 世界图书出版公司

作者 : K. L. Chung,R. J. Williams

页数 : 276

版权说明 : 本站所提供下载的PDF图书仅提供预览和简介以及在线试读 , 请支持正版图书。

更多资源请访问 : [www.tushu111.com](http://www.tushu111.com)

# 《随机积分导论(第2版)(影印版)》

## 内容概要

这是一部可读性很强的讲述随机积分和随机微分方程的入门教程。将基本理论和应用巧妙结合，非常适合学习过概率论知识的研究生，学习随机积分。运用现代方法，随机积分的定义是为了可积被积函数和局部鞅，紧接着是连续鞅的变分公式ito变化。《随机积分导论（第2版）》包括在布朗运动的描述、鞅的hermite多项式、feynman-kac泛函和schrodinger方程。这是第二版，讨论了cameron-martin-girault变换，并且在最后一章引入随机微分方程和一些学生用的练习。

目次：基础；随机积分的定义；可积被积函数的扩展；二次变分过程；ito公式；ito公式的应用；局部时间和tanaka公式；反射布朗运动；推广的ito公式，时间和测度的变化；随机微分方程。

读者对象：数学专业、概论论、随机统计等学科的研究生和科研人员。

## 书籍目录

- preface
- preface to the first edition
- abbreviations and symbols
- 1. preliminaries
  - 1.1 notations and conventions
  - 1.2 measurability,  $L^p$  spaces and monotone class theorems
  - 1.3 functions of bounded variation and stieltjes integrals
  - 1.4 probability space, random variables, filtration
  - 1.5 convergence, conditioning
  - 1.6 stochastic processes
  - 1.7 optional times
  - 1.8 two canonical processes
  - 1.9 martingales
  - 1.10 local martingales
  - 1.11 exercises
- 2. definition of the stochastic integral
  - 2.1 introduction
  - 2.2 predictable sets and processes
  - 2.3 stochastic intervals
  - 2.4 measure on the predictable sets
  - 2.5 definition of the stochastic integral
  - 2.6 extension to local integrators and integrands
  - 2.7 substitution formula
  - 2.8 a sufficient condition for extendability of  $H^2$
  - 2.9 exercises
- 3. extension of the predictable integrands
  - 3.1 introduction
  - 3.2 relationship between  $P$ ,  $O$ , and adapted processes
  - 3.3 extension of the integrands
  - 3.4 a historical note
  - 3.5 exercises
- 4. quadratic variation process
  - 4.1 introduction
  - 4.2 definition and characterization of quadratic variation
  - 4.3 properties of quadratic variation for an  $L^2$ -martingale
  - 4.4 direct definition of  $\mu_m$
  - 4.5 decomposition of  $(m)^2$
  - 4.6 a limit theorem
  - 4.7 exercises
- 5. the Ito formula
  - 5.1 introduction
  - 5.2 one-dimensional Ito formula
  - 5.3 mutual variation process
  - 5.4 multi-dimensional Ito formula
  - 5.5 exercises
- 6. applications of the Ito formula
  - 6.1 characterization of Brownian motion

# 《随机积分导论(第2版)(影印版)》

6.2 exponential processes

6.3 a family of martingales generated by m

6.4 feynman-kac functional and the schrsdinger equation

6.5 exercises

7. local time and tanaka's formula

7.1 introduction

7.2 local time

7.3 tanaka's formula

7.4 proof of lemma 7.2

7.5 exercises

8. reflected brownian motions

8.1 introduction

8.2 brownian motion reflected at zero

8.3 analytical theory of z via the it5 formula

8.4 approximations in storage theory

8.5 reflected brownian motions in a wedge

8.6 alternative derivation of equation (8.7)

8.7 exercises

9. generalized fro formula,change of time and measure

9.1 introduction

9.2 generalized it5 formula

9.3 change of time

9.4 change of measure

9.5 exercises

10. stochastic differential equations

10.1 introduction

10.2 existence and uniqueness for lipschitz coefficients

10.3 strong markov property of the solution

10.4 strong and weak solutions

10.5 examples

10.6 exercises

references

index

# 《随机积分导论(第2版)(影印版)》

## 版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:[www.tushu111.com](http://www.tushu111.com)