

<<L é vy过程>>

图书基本信息

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## &lt;&lt;Lévy过程&gt;&gt;

## 前言

Lévy processes can be thought of as random walks in continuous time, that is they are stochastic processes with independent and stationary increments. The state space may be a fairly general topological group, but in this text we will stick to the Euclidean framework. The best known and most important examples are the Poisson process, Brownian motion, the Cauchy process, and more generally stable processes. Lévy processes concern many aspects of probability theory and its applications. In particular, they are prototypes of Markov processes (actually, they form the class of space-time homogeneous Markov processes) and of semimartingales: they are also used as models in the study of queues, insurance risks, dams, and more recently in mathematical finance. From the viewpoint of functional analysis, they appear in connection with potential theory of convolution semigroups. Historically, the first researches go back to the late 20's (that is when the foundations of modern probability theory were laid down) with the study of infinitely divisible distributions. Their general structure has been gradually discovered by de Finetti, Koimogorov, Lévy, Khintchine and Itô: it is described by the celebrated Lévy-Khintchine formula which points out the correspondence between infinitely divisible distributions and processes with independent and stationary increments. After the pioneer contribution of Hunt in the mid-50s, the spreading of the theory of Markov processes and its connection with abstract potential theory has had a considerable impact on Lévy processes; see the works of Doob, Dynkin, Blumenthal and Gettoor, Skorohod, Kesten, Bretagnolle.

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### 内容概要

本书是一部全新、综合描述Levy过程理论的教程。

近年来，Levy过程理论作为现代概率的重要一支得到了迅速的发展，在序列、数学金融和风险估计等各个领域的应用广泛。

Bertoin教授运用概率结构和分析工具之间强有力的联系将这个核心理论讲述的相当简明。

介绍从属过程的特殊性质以及其在研究实值Levy过程和起伏理论时的关键特征。

详尽讲述了没有正跳跃的Levy过程和平稳过程。

目次：基础；马尔科夫过程的Levy过程；势理论基础；局部时间和马尔科夫游弋；Levy过程的局部时间；起伏理论；没有正跳跃的Levy过程；平稳过程和标度特征。

读者对象：本书适用于所有对概率论感兴趣的科研人员。

## 书籍目录

Preface0 Preliminaries 1 Notation 2 Infinitely divisible distributions 3 Martingales 4 Poisson processes 5 Poisson measures and Poisson point processes 6 Brownian motion 7 Regular variation and Tauberian theoremsI Levy Processes as Markov Processes 1 Levy processes and the Levy-Khintchine formula 2 Markov property and related operators 3 Absolutely continuous resolvents 4 Transience and recurrence 5 Exercises 6 CommentsII Elements of Potential Theory 1 Duality and time reversal 2 Capacitary measure 3 Essentially polar sets and capacity 4 Energy 5 The case of a single point 6 Exercises 7 CommentsIII Subordinators 1 Definitions and first properties 2 Passage across a level 3 The arcsine laws 4 Rates of growth 5 Dimension of the range 6 Exercises 7 CommentsIV Local Time and Excursions of a Markov Process 1 Framework 2 Construction of the local time 3 Inverse local time 4 Excursion measure and excursion process 5 The cases of holding points and of irregular points 6 Exercises 7 CommentsV Local Times of a Levy Process 1 Occupation measure and local times 2 Hilbert transform of local times 3 Jointly continuous local times 4 Exercises 5 CommentsVI Fluctuation Theory 1 The reflected process and the ladder process 2 Fluctuation identities 3 Some applications of the ladder time process 4 Some applications of the ladder height process 5 Increase times 6 Exercises 7 CommentsVII Levy Processes with no Positive Jumps 1 Fluctuation theory with no positive jumps 2 The scale function 3 The process conditioned to stay positive 4 Some path transformations 5 Exercises 6 CommentsVIII Stable Processes and the Scaling Property 1 Definition and probability estimates 2 Some sample path properties 3 Bridges 4 Normalized excursion and meander 5 Exercises 6 CommentsReferencesList of symbolsIndex

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