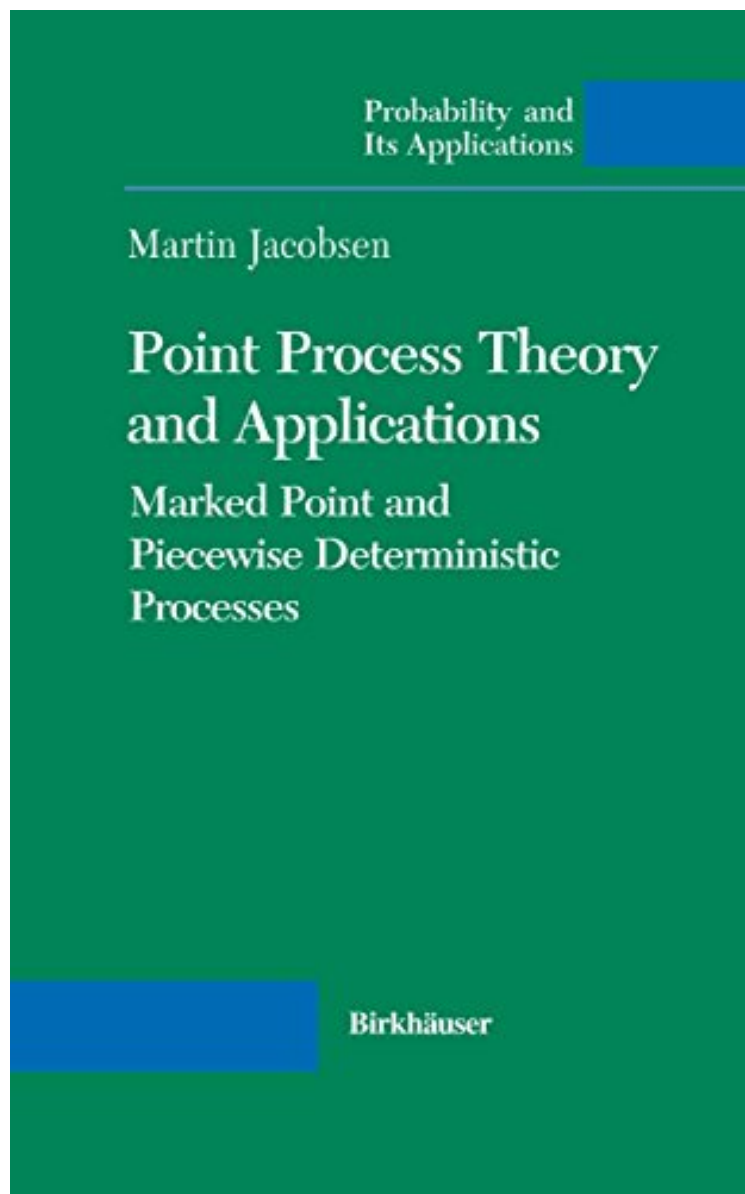



(Online library) Point Process Theory and Applications: Marked Point and Piecewise Deterministic Processes (Probability and Its Applications)

Point Process Theory and Applications: Marked Point and Piecewise Deterministic Processes (Probability and Its Applications)

Martin Jacobsen

*DOC / *audiobook / ebooks / Download PDF / ePub*



 Download

 Read Online

2006-07-27 2006-07-27File Name: B00FPZYZEW | File size: 40.Mb

Martin Jacobsen : Point Process Theory and Applications: Marked Point and Piecewise Deterministic Processes (Probability and Its Applications) before purchasing it in order to gage whether or not it would be worth my time, and all praised Point Process Theory and Applications: Marked Point and Piecewise Deterministic Processes

(Probability and Its Applications):

Mathematically rigorous exposition of the basic theory of marked point processes and piecewise deterministic stochastic processes. Point processes are constructed from scratch with detailed proofs. Includes applications with examples and exercises in survival analysis, branching processes, ruin probabilities, sports (soccer), finance and risk management, and queueing theory. Accessible to a wider cross-disciplinary audience.

From the reviews: "The most remarkable aspect of the book is the reader-friendly structure and the style in which it has been written. The importance of the book both from the practical and from the theoretical standpoint is unquestionable. This book will be an essential part of every mathematical library." ZENTRALBLATT Math "This book consists of three parts: (I) Theory, (II) Applications and (III) Appendices, that concisely summarize necessary mathematical concepts which are often found scattered among numerous texts. The most remarkable aspect of the book is its reader-friendly structure and the style in which it has been written. The importance of this book, both from the practical and from the theoretical standpoint, is unquestionable. It will be an essential part of every mathematical library." (V. K. Oganyan, *Mathematical s*, Issue 2007 a) "This book deals with marked point processes on the positive real axis. It is rigorously written and largely self-contained. Each chapter starts with an appealing introduction, including hints to the most important references. The reader is guided by clearly stated comments and hints. Many examples and exercises are given. This book is suitable for advanced graduate and postgraduate students in mathematics with some preknowledge in this area. It will also be valuable for preparing a respective lecture course." (Martin Schlather, *Journal of the American Statistical Association*, Vol. 102 (479), 2007) "The book will serve as a guide to the comprehensive study of the subject, and more likely as a reference book, inevitably a standard one. Martin Jacobsen write an accessible book is a true gift to the mathematics community. This is a good book, and an important one. Every researcher with even a passing interest in the subject will want this book on his or her shelf." (Philip Protter, *SIAM*, Vol. 49 (1), 2007) From the Back Cover This text offers a mathematically rigorous exposition of the basic theory of marked point processes developing randomly over time, and shows how this theory may be used to treat piecewise deterministic stochastic processes in continuous time. The focus is on point processes that generate only finitely many points in finite time intervals, resulting in piecewise deterministic processes with "few jumps". The point processes are constructed from scratch with detailed proofs and their distributions characterized using compensating measures and martingale structures. Piecewise deterministic processes are defined and identified with certain marked point processes, which are then used in particular to construct and study a large class of piecewise deterministic Markov processes, whether time homogeneous or not. The second part of the book addresses applications of the just developed theory. This analysis of various models in applied statistics and probability includes examples and exercises in survival analysis, branching processes, ruin probabilities, sports (soccer), finance and risk management (arbitrage and portfolio trading strategies), and queueing theory. Graduate students and researchers interested in probabilistic modeling and its applications will find this text an excellent resource, requiring for mastery a solid foundation in probability theory, measure and integration, as well as some knowledge of stochastic processes and martingales. However, an explanatory introduction to each chapter highlights those portions that are crucial and those that can be omitted by non-specialists, making the material more accessible to a wider cross-disciplinary audience.