



## Numerical Methods for Simulation and Optimization of Piecewise Deterministic Markov Processes

By Francois Dufour, Huilong Zhang, Benoite De Saporta

ISTE Ltd and John Wiley & Sons Inc. Hardback. Book Condition: new. BRAND NEW, Numerical Methods for Simulation and Optimization of Piecewise Deterministic Markov Processes, Francois Dufour, Huilong Zhang, Benoite De Saporta, This book is focused on theoretical and numerical aspects of simulation of expectations of functionals and resolution of optimization problems for piecewise deterministic Markov processes. This book deals with theoretical and numerical aspects of simulation and optimization for piecewise deterministic Markov processes (PDMP's). PDMP's form a general class of stochastic hybrid models covering a large number of problems such as engineering systems, operation research, economics, management science, biology, internet traffic, networks and reliability. This book is focused on the computation of expectation of functionals of PDMP's with applications to the evaluation of service times and on solving optimal control problems with applications to maintenance optimization. The class of piecewise deterministic Markov processes (PDMP's) is considered and recognized as a powerful modelling tool for complex systems. However, surprisingly few works are devoted to the development of numerical methods for PDMP's to solve problems of practical importance such as evaluation and optimization of functionals of the process. The main objective of this book consists in presenting mathematical tools recently developed by the...



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