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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Switching Processes in Queueing Models; Contents; Preface; Definitions; Chapter 1. Switching Stochastic Models; 1.1. Random processes with discrete component; 1.1.1. Markov and semi-Markov processes; 1.1.2. Processes with independent increments and Markov switching; 1.1.3. Processes with independent increments and semi-Markov switching; 1.2. Switching processes; 1.2.1. Definition of switching processes; 1.2.2. Recurrent processes of semi-Markov type (simple case); 1.2.3. RPSM with Markov switching; 1.2.4. General case of RPSM; 1.2.5. Processes with Markov or semi-Markov switching Chapter 3. Processes of Sums of Weakly-dependent Variables3.1. Limit theorems for processes of sums of conditionally independent random variables; 3.2. Limit theorems for sums with Markov switching; 3.2.1. Flows of rare events; 3.2.1.1. Discrete time; 3.2.1.2. Continuous time; 3.3. Quasi-ergodic Markov processes; 3.4. Limit theorems for non-homogenous Markov processes; 3.4.1. Convergence to Gaussian processes; 3.4.2. Convergence to processes with independent increments; 3.5. Bibliography; Chapter 4. Averaging Principle and

Diffusion Approximation for Switching Processes; 4.1. Introduction  
4.2. Averaging principle for switching recurrent sequences  
4.3. Averaging principle and diffusion approximation for RPSMs; 4.4.  
Averaging principle and diffusion approximation for recurrent  
processes of semi-Markov type (Markov case); 4.4.1. Averaging  
principle and diffusion approximation for SMP; 4.5. Averaging principle  
for RPSM with feedback; 4.6. Averaging principle and diffusion  
approximation for switching processes; 4.6.1. Averaging principle and  
diffusion approximation for processes with semi-Markov switching;  
4.7. Bibliography  
Chapter 5. Averaging and Diffusion Approximation in Overloaded  
Switching Queueing Systems and Networks

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Sommario/riassunto

Switching processes, invented by the author in 1977, is the main tool used in the investigation of traffic problems from automotive to telecommunications. The title provides a new approach to low traffic problems based on the analysis of flows of rare events and queueing models. In the case of fast switching, averaging principle and diffusion approximation results are proved and applied to the investigation of transient phenomena for wide classes of overloading queueing networks. The book is devoted to developing the asymptotic theory for the class of switching queueing models which covers mode

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