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Collana	Studies in probability, optimization, and statistics, , 0928-3986 ; ; v. 3
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Soggetti	Dynamic programming Inventory control - Data processing Markov processes
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Title Page; Contents; Introduction; Static Problems; Newsvendor Problem; EOQ Model; Price Considerations; Several Products With Scarce Resource; Continuous Production of Several Products; Lead Time; Random Demand Rate: Unsatisfied Demand Lost; Markov Chains; Notation; Chapman-Kolmogorov Equations; Stopping Times; Solution of Analytic Problems; Ergodic Theory; Examples; Optimal Control in Discrete Time; Deterministic Case; Stochastic Case: General Formulation; Functional Equation; Probabilistic Interpretation; Uniqueness; Inventory Control Without Set Up Cost; No Shortage Allowed. Backlog AllowedDeterministic Case; Ergodic Control in Discrete Time; Finite Number of States; Ergodic Control of Inventories With no Shortage; Ergodic Control of Inventories With Backlog; Deterministic Case; Optimal Stopping Problems; Dynamic Programming; Interpretation; Penalty Approximation; Ergodic Case; Impulse Control; Description of the Model; Study of the Functional Equation; Another Formulation; Probabilistic Interpretation; Inventory Control With Set Up Cost; Deterministic Model; Inventory Control With Fixed Cost and no

Shortage; Inventory Control With Fixed Cost and Backlog  
 Ergodic Control of Inventories With Set Up Cost  
 Deterministic Case; Ergodic Inventory Control With Fixed Cost and no Shortage; Ergodic Inventory Control With Fixed Cost and Backlog; Dynamic Inventory Models With Extensions; Capacitated Inventory Management; Multi Supplier Problem; Inventory Control With Markov Demand; Introduction; No Backlog and no Set-Up Cost; Backlog and no Set Up Cost; No Backlog and Set Up Cost; Backlog and Set Up Cost; Learning Process; Lead Times and Delays; Introduction; Models With Inventory Position; Models Without Inventory Position; Information Delays  
 Ergodic Control With Information Delays  
 Continuous Time Inventory Control; Deterministic Model; Ergodic Problem; Continuous Rate Delivery; Lead Time; Newsvendor Problem; Poisson Demand; Ergodic Case for the Poisson Demand; Poisson Demand With Lead Time; Ergodic Approach for Poisson Demand With Lead Time; Poisson Demand With Lead Time: Use of Inventory Position; Ergodic Theory for Lead Time With Inventory Position; Inventory Control With Diffusion Demand; Introduction; Problem Formulation;  $s$ ,  $S$  Policy; Solving the Q.V.I; Ergodic Theory; Probabilistic Interpretation  
 Mean-Reverting Inventory Control  
 Introduction; Description of the Problem;  $s$ ,  $S$  Policy; Solution of the Q.V.I; Two Band Impulse Control Problems; Introduction; The Problem;  $a$ ,  $A$ ,  $b$ ,  $B$  Policy; Solution of the Q.V.I.; Computational Aspects; Bibliography; Appendix A; Proof of Lemmas; Proof of Measurable Selection; Extension to  $U$  non Compact; Compactness Properties

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## Sommario/riassunto

This book presents a unified theory of dynamic programming and Markov decision processes and its application to a major field of operations research and operations management: inventory control. Models are developed in discrete time as well as in continuous time. For continuous time, this book concentrates only on models of interest to inventory control. For discrete time, the focus is mainly on infinite horizon models. The book also covers the difference between impulse control and continuous control. Ergodic control is considered in the context of impulse control, and some simple rules curre

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