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Nota di contenuto	Introduction and Summary -- Part I: Finite Model Approximations in Stochastic Control -- Prelude to Part I -- Finite Action Approximation of Markov Decision Processes -- Finite-State Approximation of Markov Decision Processes -- Approximations for Partially Observed Markov Decision Processes -- Approximations for Constrained Markov Decision Problems -- Part II: Finite Model Approximations in Decentralized Stochastic Control -- Prelude to Part II -- Finite Model Approximations in Decentralized Stochastic Control -- Asymptotic Optimality of Finite Models for Specific Systems -- Index -- References.
Sommario/riassunto	In a unified form, this monograph presents fundamental results on the approximation of centralized and decentralized stochastic control

problems, with uncountable state, measurement, and action spaces. It demonstrates how quantization provides a system-independent and constructive method for the reduction of a system with Borel spaces to one with finite state, measurement, and action spaces. In addition to this constructive view, the book considers both the information transmission approach for discretization of actions, and the computational approach for discretization of states and actions. Part I of the text discusses Markov decision processes and their finite-state or finite-action approximations, while Part II builds from there to finite approximations in decentralized stochastic control problems. This volume is perfect for researchers and graduate students interested in stochastic controls. With the tools presented, readers will be able to establish the convergence of approximation models to original models and the methods are general enough that researchers can build corresponding approximation results, typically with no additional assumptions.