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Nota di contenuto	1. Introduction -- 2. Uniqueness and stability of optimal policies -- 3. Existence of an overtaking optimal policy -- 4. A weak turnpike property -- 5. Convex Markov decision processes -- 6. Turnpike properties for MDPs with perturbations -- 7. Controllability properties -- 8. Optimal control problems with singleton-turnpikes -- 9. Conclusions.
Sommario/riassunto	This book provides a comprehensive examination of the structure of approximate optimal policies in Markov decision processes (MDPs) with finite state spaces, as well as approximate optimal solutions for deterministic discrete-time optimal control problems. At its core, the monograph delves into the turnpike property, a concept introduced by P. Samuelson, which suggests that optimal solutions are largely determined by the objective function, independent of interval length or endpoint conditions. Key concepts include the uniqueness and stability

of minimizing Markov actions, the existence of overtaking optimal policies, and the asymptotic and weak turnpike properties. The authors meticulously examine these phenomena across various classes of MDPs, employing a Baire category approach to demonstrate the generic nature of these properties. The book also addresses the impact of perturbations on cost functions, ensuring the stability of turnpike properties. This monograph is an essential resource for researchers and scholars in the fields of operations research, applied mathematics, and control theory. It provides valuable insights into the intricate dynamics of MDPs and optimal control systems, making it a must-read for anyone seeking to deepen their understanding of these complex topics.