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	Descrizione fisica	1 online resource (XXVII, 565 p. 84 illus.)
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		Decision making
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		Operations Research/Decision Theory
		Systems Theory, Control
		Industrial and Production Engineering
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	Nota di contenuto	Chapter 1. What is Optimal Control Theory?- Chapter 2. The Maximum Principle: Continuous Time -- Chapter 3. The Maximum Principle: Mixed Inequality Constraints -- Chapter 4. The Maximum Principle: Pure State and Mixed Inequality Constraints -- Chapter 5. Applications to Finance -- Chapter 6. Applications to Production and Inventory -- Chapter 7. Applications to Marketing -- Chapter 8. The Maximum Principle: Discrete Time -- Chapter 9. Maintenance and Replacement -- Chapter 10. Applications to Natural Resources -- Chapter 11. Applications to Economics -- Chapter 12. Stochastic Optimal Control -- Chapter 13. Differential Games.
	Sommario/riassunto	This fully revised 3rd edition offers an introduction to optimal control theory and its diverse applications in management and economics. It brings to students the concept of the maximum principle in continuous and discrete time by using dynamic programming and Kuhn-Tucker theory. While some mathematical background is needed, the emphasis

of the book is not on mathematical rigor, but on modeling realistic situations faced in business and management. The book exploits optimal control theory to the functional areas of management science including finance, production and marketing and to economics of growth and of natural resources. In addition, this new edition features materials on stochastic Nash and Stackelberg differential games and an adverse selection model in the principal-agent framework. The book provides exercises for each chapter and answers to selected exercises to help deepen the understanding of the material presented. Also included are appendices comprised of supplementary material on the solution of differential equations, the calculus of variations and its relationships to the maximum principle, and special topics including the Kalman filter, certainty equivalence, singular control, a global saddle point theorem, Sethi-Skiba points, and distributed parameter systems. Optimal control methods are used to determine optimal ways to control a dynamic system. The theoretical work in this field serves as a foundation for the book, which the author has applied to business management problems developed from his research and classroom instruction. The new edition has been completely refined and brought up to date. Ultimately this should continue to be a valuable resource for graduate courses on applied optimal control theory, but also for financial and industrial engineers, economists, and operational researchers concerned with the application of dynamic optimization in their fields.