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	Sommario/riassunto	This book is devoted to the study of the turnpike phenomenon arising in optimal control theory. Special focus is placed on Turnpike results, in sufficient and necessary conditions for the turnpike phenomenon and in its stability under small perturbations of objective functions. The most important feature of this book is that it develops a large, general class of optimal control problems in metric space. Additional value is in the provision of solutions to a number of difficult and interesting problems in optimal control theory in metric spaces. Mathematicians

working in optimal control, optimization, and experts in applications of optimal control to economics and engineering, will find this book particularly useful. All main results obtained in the book are new. The monograph contains nine chapters. Chapter 1 is an introduction. Chapter 2 discusses Banach space valued functions, set-valued mappings in infinite dimensional spaces, and related continuous-time dynamical systems. Some convergence results are obtained. In Chapter 3, a discrete-time dynamical system with a Lyapunov function in a metric space induced by a set-valued mapping, is studied. Chapter 4 is devoted to the study of a class of continuous-time dynamical systems, an analog of the class of discrete-time dynamical systems considered in Chapter 3. Chapter 5 develops a turnpike theory for a class of general dynamical systems in a metric space with a Lyapunov function. Chapter 6 contains a study of the turnpike phenomenon for discrete-time nonautonomous problems on subintervals of half-axis in metric spaces, which are not necessarily compact. Chapter 7 contains preliminaries which are needed in order to study turnpike properties of infinite-dimensional optimal control problems. In Chapter 8, sufficient and necessary conditions for the turnpike phenomenon for continuous-time optimal control problems on subintervals of the half-axis in metric spaces, is established. In Chapter 9, the examination continues of the turnpike phenomenon for the continuous-time optimal control problems on subintervals of half-axis in metric spaces discussed in Chapter 8.