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Nota di contenuto	PREFACE; Contents; CHAPTER 1 GENERALIZED HAMILTONIAN SYSTEMS; 1.1 Introduction; 1.2 From Newton's second law to Hamiltonian equation; 1.3 Symplectic manifold and Poisson manifold; 1.4 Pseudo-Hamiltonian systems and controlled pseudo-Hamiltonian systems; 1.5 Pseudo-Poisson manifold; 1.6 Integrability; 1.7 w-manifold; 1.8 Structure group and its algebra; 1.9 Spectrum; 1.10 Structure invariance; 1.11 Stabilization of excitation control; 1.12 Stabilization and Hw control for dissipative Hamiltonian systems; 1.13 Summary; CHAPTER 2 CONTINUOUS FINITE-TIME CONTROL; 2.1 Introduction 2.2 Classes of finite-time feedback2.3 Preliminary results; 2.4 Finite-time state feedback; 2.5 Finite-time observer; 2.6 Output feedback; 2.7 Convergent rate; 2.8 Applications in robot control; 2.9 Robust issues; 2.10 Conclusions; CHAPTER 3 LOCAL STABILIZATION OF NONLINEAR SYSTEMS BY DYNAMIC OUTPUT FEEDBACK; 3.1 Introduction; 3.2 Preliminaries; 3.3 Stabilization of observable systems; 3.4 Stabilization of partially linear composite system; 3.5 Stabilization of a special class of systems; CHAPTER 4 HYBRID CONTROL FOR GLOBAL STABILIZATION OF A CLASS OF SYSTEMS; 4.1 Introduction

4.2 Hybrid systems and hybrid control
4.3 Quadratic stability of homogeneous switched systems;
4.4 A hybrid controller for the cart-pendulum system;
4.5 Concluding remarks;
CHAPTER 5 ROBUST AND ADAPTIVE CONTROL OF NONHOLONOMIC MECHANICAL SYSTEMS WITH APPLICATIONS TO MOBILE ROBOTS;
5.1 Introduction;
5.2 Dynamic model of nonholonomic mechanical systems;
5.3 Robust control design based on SMC;
5.4 Applications to the nonholonomic mobile robots;
5.5 Conclusions;
CHAPTER 6 INTRODUCTION TO CHAOS CONTROL AND ANTI-CONTROL;
6.1 Overview of chaos control and anticontrol
6.2 Challenges in chaos control
6.3 Representative chaos control methods;
6.4 Anticontrol of chaos: chaotification;
6.5 Some concluding remarks

Sommario/riassunto

Over the last 50 years or so, a number of textbooks, monographs and even popular books have been published on nonlinear control theory and design methods. In the area of classical control, for example, there exist books concerned with phase-plane analysis, describing function approach, absolute stability and so on. In the area of modern control there are those related to optimal control, using differential geometry and the differential algebra method, variable structural control, H-infinite control and so on. These books have been useful in promoting the development of automatic control scienc
