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| Nota di bibliografia | Includes bibliographical references. |
| Nota di contenuto | Introduction -- Part I: Nonlinear Control Systems -- New Results in Distributed Nonlinear Control of Autonomous Multi-Agents -- Controlled Invariant Distributions: How It All Started and Why It's Still Alive -- Covergent Systems: Nonlinear Simplicity -- Part II: Synchronization in Networked Systems -- An Observer Looks at Synchronization: Revisited -- Synchronization and Emergent Behavior in Networks of Heterogeneous Systems: A Control Theory Perspective; Emergence of Oscillations in Networks of Time-Delay Coupled Internet |

Systems -- Control of Nonlinear Mechanical Systems -- Control of Underactuated Marine Vehicles in the Presence of Environmental Disturbances -- Position Control via Force Feedback for a Class of Standard Mechanical Systems in the Port-Hamiltonian Framework -- The Endogenous Configuration Space Approach: An Intersection of Robotics and Control Theory.

Sommario/riassunto

This treatment of modern topics related to the control of nonlinear systems is a collection of contributions celebrating the work of Professor Henk Nijmeijer and honoring his 60th birthday. It addresses several topics that have been the core of Professor Nijmeijer's work, namely: the control of nonlinear systems, geometric control theory, synchronization, coordinated control, convergent systems and the control of underactuated systems. The book presents recent advances in these areas, contributed by leading international researchers in systems and control. In addition to the theoretical questions treated in the text, particular attention is paid to a number of applications including (mobile) robotics, marine vehicles, neural dynamics and mechanical systems generally. This volume provides a broad picture of the analysis and control of nonlinear systems for scientists and engineers with an interest in the interdisciplinary field of systems and control theory. The reader will benefit from the expert participants' ideas on important open problems with contributions that represent the state of the art in nonlinear control.