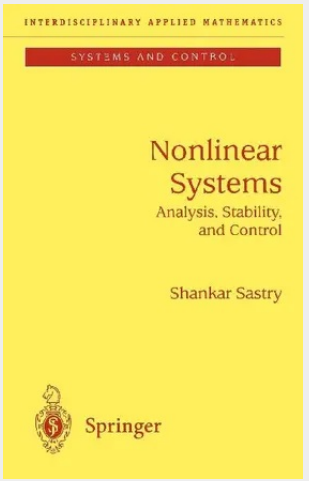
Sastry

Nonlinear Systems

Analysis, Stability, and Control



There has been a great deal of excitement in the last ten years over the emer gence of new mathematical techniques for the analysis and control of nonlinear systems: Witness the emergence of a set of simplified tools for the analysis of bifurcations, chaos, and other complicated dynamical behavior and the develop ment of a comprehensive theory of geometric nonlinear control. Coupled with this set of analytic advances has been the vast increase in computational power available for both the simulation and visualization of nonlinear systems as well as for the implementation in real time of sophisticated, real-time nonlinear control laws. Thus, technological advances havebolstered the impact of analytic advances and produced a tremendous variety of new problems and applications that are nonlinear in an essential way. Nonlinear controllaws have been implemented for sophisticated flight control systems on board helicopters, and vertical take offand landing aircraft; adaptive, nonlinearcontrollaws havebeen implementedfor robot manipulators operating either singly, or in cooperation on a multi-fingered robot hand; adaptive control laws have been implemented forjetengines andautomotive fuel injection systems, as well as for automated highway systems and air traffic management systems, to mention a few examples. Bifurcation theory has been used to explain and understand the onset of fiutterin the dynamics of aircraft wing structures, the onset of oscillations in nonlinear circuits, surge and stall in aircraft engines, voltage collapse in a power transmission network.

This book presents the most recent results in analysis stability and control of dynamical systems, written by one of the leading researchers in the area. The treatment is of necessity both mathemtically rigorous and abstract, so as to cover several applications simultaneously. The book should be suitable for graduate courses in nonlinear control.

86,62 €
80,95 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780387985138
Medium: Buch
ISBN: 978-0-387-98513-8
Verlag: Springer US
Erscheinungstermin: 22.06.1999
Sprache(n): Englisch
Auflage: Erscheinungsjahr 1999
Serie: Interdisciplinary Applied Mathematics
Produktform: Gebunden
Gewicht: 1152 g
Seiten: 668
Format (B x H): 160 x 241 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)