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Descrizione fisica	1 online resource (XXXIV, 402 p. 236 illus., 181 illus. in color.)
Disciplina	629.2
Soggetti	Automotive engineering Vibration Dynamical systems Dynamics Control engineering Statistical physics Automotive Engineering Vibration, Dynamical Systems, Control Control and Systems Theory Applications of Nonlinear Dynamics and Chaos Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Transient Vehicle Dynamics -- Nonlinear Friction Modeling Vehicle-Road Interaction -- Caster-Camber Kinematic of Vehicle Steering -- Nonlinear Yaw Movement Control for Electric and Hybrid Vehicles -- Frequency Island in Nonlinear Vibrations -- An Active Vibration Control Strategy -- Train and Tram Systems Investigation -- Unmanned Aerial Vehicle for Structural Monitoring -- Solutions for Path Planning Using Spline Parameterization -- A Novel Method for Solution of Nonlinear Initial-Boundary Value Problems -- Strength and Contraction Speed of Muscle Groups -- Dynamic Contact and Scratch Analysis at the Micro/Nanoscale -- Climbing Robot -- Large Diameter Thin-Walled Tube Post Buckling -- Nonlinear Structural Dynamics of the Vehicle Seat Coupled with Human Body.

Sommario/riassunto

This book looks at the broad field of engineering science through the lens of nonlinear approaches. Examples focus on issues in vehicle technology, including vehicle dynamics, vehicle-road interaction, steering, and control for electric and hybrid vehicles. Also included are discussions on train and tram systems, aerial vehicles, robot-human interaction, and contact and scratch analysis at the micro/nanoscale. Chapters are based on invited contributions from world-class experts in the field who advance the future of engineering by discussing the development of more optimal, accurate, efficient, and cost and energy effective systems. This book is appropriate for researchers, students, and practicing engineers who are interested in the applications of nonlinear approaches to solving engineering and science problems.
