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Descrizione fisica	1 online resource (xxxvi, 458 pages) : illustrations
Disciplina	629.231 620.001515252
Soggetti	Automotive engineering Computational complexity Vibration Dynamical systems Dynamics Control engineering System theory Statistical physics Automotive Engineering Complexity Vibration, Dynamical Systems, Control Control and Systems Theory Complex Systems Applications of Nonlinear Dynamics and Chaos Theory
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Nota di contenuto	Chapter1: Vehicles Are Lazy: On Predicting Vehicle Transient Dynamics by Steady-State Responses -- Chapter2: Artificial Intelligence and Internet of Things for Autonomous Vehicles -- Chapter3: Nonlinear Drilling Dynamics with Considerations of Stochastic Friction and Axial and Tangential Coupling -- Chapter4: Nonlinear Modeling Application to Micro/NanoRobotics -- Chapter5: Nonlinear pattern of sea levels –

	case study of North America -- Chapter6: Illustrated Guidelines for Modelling and Dynamic Simulation of Linear and Non-Linear Deterministic Engineering Systems -- Chapter7: On the Description of Large Deformation in Curvilinear Coordinate Systems: Application to Thick-walled Cylinders -- Chapter8: Big Data Modelling Approaches for Engineering Applications -- Chapter9: Genetic Programming Approaches in Design and Optimization of Mechanical Engineering Applications -- Chapter10: Optimization of Dynamic Response of Cantilever Beam by Genetic Algorithm.
Sommario/riassunto	This book focuses on the latest applications of nonlinear approaches in engineering and addresses a range of scientific problems. Examples focus on issues in automotive technology, including automotive dynamics, control for electric and hybrid vehicles, and autodriver algorithm for autonomous vehicles. Also included are discussions on renewable energy plants, data modeling, driver-aid methods, and low-frequency vibration. Chapters are based on invited contributions from world-class experts who advance the future of engineering by discussing the development of more optimal, accurate, efficient, cost, and energy effective systems. This book is appropriate for researchers, students, and practising engineers who are interested in the applications of nonlinear approaches to solving engineering and science problems. Presents a broad range of practical topics and approaches; Explains approaches to better, safer, and cheaper systems; Emphasises automotive applications, physical meaning, and methodologies.