

1. Record Nr.	UNINA9910366591503321
Titolo	Nonlinear Approaches in Engineering Applications : Automotive Applications of Engineering Problems // edited by Reza N. Jazar, Liming Dai
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-18963-5
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (xxxvi, 458 pages) : illustrations
Disciplina	629.231 620.001515252
Soggetti	Automotive engineering Dynamics Nonlinear theories Multibody systems Vibration Mechanics, Applied Control engineering System theory Nonlinear Optics Automotive Engineering Applied Dynamical Systems Multibody Systems and Mechanical Vibrations Control and Systems Theory Complex Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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.
