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Collana	Conference Proceedings of the Society for Experimental Mechanics Series, , 2191-5652
Disciplina	531
Soggetti	Multibody systems Vibration Mechanics, Applied Dynamics Nonlinear theories Solids Nonlinear Optics Multibody Systems and Mechanical Vibrations Applied Dynamical Systems Solid Mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Chapter1: Design Sensitivities of Components Using Nonlinear Reduced-order Models and Complex Variables -- Chapter2: An Explanation for Why Natural Frequencies Shifting in Structures with Membrane Stresses, Using Backbone Curve Models -- Chapter3: Experimental Nonlinear Dynamics and Snap-through of Post-Buckled Composite Plates -- Chapter4: Comparing Analytical Approximation Methods with Numerical Results for Nonlinear Systems -- Chapter5: Identification of Complex Nonlinearities Using Cubic Splines with Automatic Discretization -- Chapter6: Nonlinear Vibration Analysis of a Complex Aerospace Structure -- Chapter7: Free Vibration Identification of the Geometrically Nonlinear Isolator with Elastic Rings by using

Hilbert Transform -- Chapter8: Non-linear System Identification using the Hilbert-Huang Transform and Complex Non-linear Modal Analysis -- Chapter9: Experimental Analysis of a Piezoelectric Energy Harvester with Internal Resonances -- Chapter10: Identification of Pressure-Dependent Modal Properties of Non-Linear Brake pad by using Scalable Dirac Impulse -- Chapter11: A Proposal of Multi-Dimensional Modal Reduction for Nonlinear Dynamic Simulations -- Chapter12: Nonlinear Normal Modes of a Curved Beam and its Response to Random Loading -- Chapter13: Experimental Study on the Effect of Large Axial Tension Force on the Natural Frequency of a Fixed-Fixed Steel Beam -- Chapter14: The Significance of Nonlinear Normal Modes for Forced Responses -- Chapter15: Influence of Actual Static Transmission Error and Contact Ratio on Gear Engagement Dynamics -- Chapter16: Sensitivity Analysis of Nonlinear Railway Vehicle Models Using Linearized Proxy Analyses -- Chapter17: Application of Nonlinear Displacement-Dependent Dampers in Suspension Systems -- Chapter18: Persistent Models for Complex Control Systems -- Chapter19: Evaluation of Autoparametric Vibration Absorbers on N-Story Building-like Structures -- Chapter20: Modal Methods for Contact Analysis and Contact Force Reconstruction -- Chapter21: Design of a Frequency-energy Independent Nonlinear Oscillator -- Chapter22: Identification of Nonlinear Wave Forces using Gaussian Process NARX Models.

Sommario/riassunto

Nonlinear Dynamics, Volume 1: Proceedings of the 35th IMAC, A Conference and Exposition on Structural Dynamics, 2017, the first volume of ten from the Conference brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on fundamental and applied aspects of Nonlinear Dynamics, including papers on: Nonlinear System Identification Nonlinear Modeling & Simulation Nonlinear Reduced-order Modeling Nonlinearity in Practice Nonlinearity in Aerospace Systems Nonlinearity in Multi-Physics Systems Nonlinear Modes and Modal Interactions Experimental Nonlinear Dynamics.
