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Nota di contenuto	Chapter 1. Pre-test Predictions of Next-Level Assembly Using Calibrated Nonlinear Subcomponent Model -- Chapter 2. Nonlinear Variability due to Mode Coupling in a Bolted Benchmark Structure -- Chapter 3. Nonlinear Dynamic Analysis of a Shape Changing Finger-like Mechanism for Morphing Wings -- Chapter 4. Evaluation of Joint Modeling Techniques Using Calibration and Fatigue Assessment of a Bolted Structure -- Chapter 5. A Non-Masing Microslip Rough Contact Modeling Framework for Spatially and Cyclically Varying Normal Pressure -- Chapter 6. Finite Elements and Spectral Graphs: Applications to Modal Analysis and Identification -- Chapter 7. Best

Paper: Effects of the Geometry of Friction Interfaces on the Nonlinear Dynamics of Jointed Structures -- Chapter 8. Bifurcation Analysis of a Piecewise-Smooth Freeplay System -- Chapter 9. Insights on the Bifurcation Behavior of a Freeplay System with Piecewise and Continuous Representations -- Chapter 10. Model Updating and Uncertainty Quantification of Geometrically Nonlinear Panel subjected to Non-uniform Temperature Fields -- Chapter 11. On Affine Symbolic Regression Trees for the Solution of Functional Problems -- Chapter 12. Comparative Analysis of Mechanical and Magnetic Amplitude Stoppers in an Energy Harvesting Absorber -- Chapter 13. NIXO-Based Identification of the Dominant Terms in a Nonlinear Equation of Motion -- Chapter 14. Nonlinear Dynamics and Characterization of Beam-Based Systems with Contact/Impact Boundaries -- Chapter 15. Experimental Modal Analysis of Geometrically Nonlinear Structures by Using Response-Controlled Stepped-Sine Testing -- Chapter 16. The Application of Generating Series for Nonlinear Systems with Polynomial Stiffness -- Chapter 17. A Hybrid Static and Dynamic Model Updating Technique for Structures Exhibiting Geometric Nonlinearity -- Chapter 18. Insights on the Dynamical Responses of Additively Manufactured Systems -- Chapter 19. Characterization of Nonlinearities in a Structure using Nonlinear Modal Testing Methods -- Chapter 20. Challenges of Characterizing Geometric Nonlinearity of a Double Clamped Thin Beam using Nonlinear Modal Testing Methods -- Chapter 21. Establishing the Exact Relation between Conservative Backbone Curves and Frequency Responses via Energy Balance -- Chapter 22. Joint Interface Contact Area Predictions Using Surface Strain Measurements -- Chapter 23. Towards Compact Structural Bases for Coupled Structural-Thermal Nonlinear Reduced Order Modeling -- Chapter 24. Ensemble of Multi-time Resolution Recurrent Neural Networks for Enhanced Feature Extraction in High-Rate Time Series -- Chapter 25. Modelling the Effect of Pre-Load in a Lap-Joint by Altering Thin Layer Material Properties.

Sommario/riassunto

Nonlinear Structures & Systems, Volume 1: Proceedings of the 39th IMAC, A Conference and Exposition on Structural Dynamics, 2021, the first volume of nine 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 Reduced-order Modeling Jointed Structures: Identification, Mechanics, Dynamics Experimental Nonlinear Dynamics Nonlinear Model & Modal Interactions Nonlinear Damping Nonlinear Modeling & Simulation Nonlinearity & System Identification.
