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| Nota di bibliografia | Includes bibliographical references at the end of each chapters. |
| Nota di contenuto | Vibration class at GIST, Korea -- Lab Exercises for a Course on Mechanical Vibrations -- Variational Foundations of Modern Structural Dynamic -- Some Cornerstones of Signal Analysis History -- Structural Dynamic Test-analysis Correlation -- A Brief History of 30 Years of Model Updating in Structural Dynamics -- Techniques for Synthesizing FRFs From Analytical Models -- An Analytical Method and Its Extension for Linear Modal Analysis of Beam-type Systems Carrying Various Substructures -- Computationally Efficient Nonlinear Dynamic Analysis For Stress/Strain Applications -- An Improved Expansion Process for Guyan Reduced Models - Technique for Improved Guyan Expansion |

Reconstruction (TIGER) -- Towards a Technique for Nonlinear Modal Reduction -- Identification of Independent Inputs and their Spatial Positions -- Shock Response Fixture Developed From Analytical and Experimental Data and Customized Using Structural Dynamics Modification Techniques -- Parameter Identification for Nonlinear Dynamic Systems via Multilinear Least Square Estimation -- Nonlinear Modeling for Adaptive Suppression of Axial Drilling Vibration -- A Regenerative Approach to Energy Efficient Hydraulic Vibration Control -- Virtual Sensing of Acoustic Potential Energy Through a Kalman Filter for Active Control of Interior Sound -- Wavenumber Decomposition Applied to a Negative Impedance Shunts for Vibration Suppression on a Plate -- Modal Parameter Estimation of a Two-Disk- Shaft System by the Unified Matrix Polynomial Approach -- Design of an Inertial Measurement Unit for Enhanced Training -- A Parameter Optimization for Mode Shapes estimation Using Kriging Interpolation -- Determination of Principal Axes of a Wineglass Using Acoustic Testing -- Remote Placement of Magnetically Coupled Ultrasonic Sensors for Structural Health Monitoring -- Modular System for High-Speed 24-bit Data Acquisition of Triaxial MEMS Accelerometers -- Mode Shape Comparison Using Continuous-scan Laser Doppler Vibrometry and High Speed 3D Digital Image Correlation -- Triaxial Accelerometer High Frequency Measurement and Temperature Stability Considerations -- Laser Speckle in Dynamic Sensing Applications -- Sensor Placements for Damage Localization With the SDLV Approach -- Diaphragm Flexibility in Floor Spectra -- Use of Zernike Polynomials for Modal Vector Correlation of Small Turbine Blades -- Modeling of Flexible Tactical Aerospace Vehicle for Hardware-in-Loop Simulations -- Modal Test Of Six-meter Hypersonic Inflatable Aerodynamic Decelerator -- Modal Testing of Space Exploration Rover Prototypes.

Sommario/riassunto

This critical collection examines a range of special topics in structural dynamics, from system identification to analytical methods to active control, as presented in early findings and case studies from the Proceedings of the 32nd IMAC, A Conference and Exposition on Structural Dynamics, 2014. The collection includes papers in the following general technical research areas: · Aircraft/Aerospace · Active Control · Analytical Methods · System Identification · Sensors and Instrumentation.