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Nota di contenuto	Chapter1. Lateral vibration attenuation of a beam with piezo-elastic supports subject to varying axial tensile and compressive loads -- Chapter2. Correlation of Non-contact Full-Field Dynamic Strain Measurements with Finite Element Predictions -- Chapter3. Nonlinear Prediction Surfaces for the Estimation of Structural Response of Naval Vessels -- Chapter4. A Case Study in Predictive Modeling Beyond the Calibration Domain -- Chapter5. A Brief Overview of Code and Solution Verification in Numerical Simulation -- Chapter6. Robust Optimization

of Shunted Piezoelectric Transducers for Vibration Attenuation Considering Dierent Values of Electromechanical Coupling -- Chapter7. Parameter estimation and uncertainty quantification of mass loaded bushings using model updating -- Chapter8. Vibroacoustic modelling of piano soundboards through analytical approaches in frequency and time domains -- Chapter9. Combined Experimental and Numerical Investigation of Vibro-mechanical Properties of Varnished Wood for Stringed Instruments -- Chapter10. Towards robust sustainable system design – An engineering inspired approach -- Chapter11. Linear Parameter-Varying (LPV) buckling control of an imperfect beam-column subject to time-varying axial loads -- Chapter12. Quantification and Evaluation of Uncertainty in the Mathematical Modelling of a Suspension Strut using Bayesian Model Validation Approach -- Chapter13. Unsupervised Novelty Detection Techniques for Structural Damage Localization: A Comparative Study -- Chapter14. Global load path adaption in a simple kinematic load-bearing structure to compensate uncertainty of misalignment due to changing stiffness conditions of the structure's supports -- Chapter15. Assessment of Uncertainty Quantification of Bolted Joint Performance -- Chapter16. Sensitivity Analysis and Bayesian Calibration for 2014 Sandia Verification and Validation Challenge Problem -- Chapter17. Non-probabilistic uncertainty evaluation in the concept phase for airplane landing gear design -- Chapter18. Modular Analysis of Complex Systems with Numerically Described Multidimensional Probability Distributions -- Chapter19. Methods for Component Mode Synthesis Model Generation for Uncertainty Quantification -- Chapter20. Parameterization of Large Variability using the Hyper-Dual Meta-Model -- Chapter21. Similitude Analysis of the Frequency Response Function for Scaled Structures -- Chapter22. MPUQ-b: Bootstrapping based Modal Parameter Uncertainty Quantification - Fundamental Principles -- Chapter23. MPUQ-b: Bootstrapping based Modal Parameter Uncertainty Quantification – Methodology and Application -- Chapter24. Evaluation of Truck-Induced Vibrations for a Multi-Beam Highway Bridge -- Chapter25. Innovations and Info-Gaps: An Overview -- Chapter26. Bayesian optimal experimental design using asymptotic approximations -- Chapter27. Surrogate-Based Approach to Calculate the Bayes Factor -- Chapter28. Vibrational Model Updating of Electric Motor Stator for Vibration and Noise Prediction -- Chapter29. A Comparison of Computer-Vision-Based Structural Dynamics Characterizations -- Chapter30. Sequential Gauss-Newton MCMC Algorithm for High-Dimensional Bayesian Model Updating -- Chapter31. Model Calibration with Big Data -- Chapter32. Towards Reducing Prediction Uncertainties in Human Spine Finite Element Response: In-vivo Characterization of Growth and Spine Morphology -- Chapter33. Structural Damage Detection Using Convolutional Neural Networks -- Chapter34. Experimental model validation of an aero-engine casing assembly -- Chapter35. Damage Detection in Railway Bridges under Moving Train Load -- Chapter36. Multi-Fidelity Calibration of Input-Dependent Model Parameters -- Chapter37. Empirically Improving Model Adequacy in Scientific Computing -- Chapter38. Mixed geometrical-material sensitivity analysis for the study of complex phenomena in musical acoustics -- Chapter39. Experimental Examples for Identification of Structural Systems Using Degree of Freedom-Based Reduction Method.

Sommario/riassunto

Model Validation and Uncertainty Quantification, Volume 3: Proceedings of the 35th IMAC, A Conference and Exposition on Structural Dynamics, 2017, the third 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 Model Validation and Uncertainty Quantification, including papers on: Uncertainty Quantification in Material Models Uncertainty Propagation in Structural Dynamics Practical Applications of MVUQ Advances in Model Validation & Uncertainty Quantification: Model Updating Model Validation & Uncertainty Quantification: Industrial Applications Controlling Uncertainty Uncertainty in Early Stage Design Modeling of Musical Instruments Overview of Model Validation and Uncertainty.