

Contents

1	International Space Station 2A Array Modal Analysis	1
	Michael Laible, Kristin Fitzpatrick, and Michael Grygier	
2	Experimental Non-linear Modal Testing of an Aircraft Engine Casing Assembly	15
	Dario Di Maio, Paul Bennett, Christoph Schwingshackl, and David J. Ewins	
3	Nonlinear Dynamic Analysis of a Track Bridge Structure Designed for a Floating Bridge	37
	H. Sedarat, A. Kozak, I. Talebinejad, V. Jacob, A. Krimotat, T. Cooper, J. Sleavin, and P. Cornish	
4	Experiment-Based Assessment of <i>NLBeam</i> for Modeling Geometrically Nonlinear Dynamic Deformations.	47
	Lisa Dangora, Julie Harvie, Katie Wichman, and D.J. Luscher	
5	Identification of Restoring Force Surfaces in Nonlinear MDOF Systems from FRF Data Using Nonlinearity Matrix	65
	Murat Aykan and H. Nevzat Özgüven	
6	Smooth Projective Noise Reduction for Nonlinear Time Series	77
	David Chelidze	
7	Nonlinear Finite Element Model Updating of a Large-Scale Infilled Frame Structures Based on Instantaneous Modal Parameters	85
	Eliyar Asgariéh, Babak Moaveni, and Andreas Stavridis	
8	Frequency-Domain Subspace Identification of Nonlinear Mechanical Systems: Application to a Solar Array Structure	91
	J.P. Noël, G. Kerschen, E. Foltête, and S. Cogan	
9	Localization and Identification of Structural Nonlinearities Using Neural Networks	103
	A. Koyuncu, E. Cigeroglu, M.E. Yumer, and H.N. Özgüven	
10	Locally Non-linear Model Calibration Using Multi Harmonic Responses: Applied on Ecole de Lyon Non-linear Benchmark Structure	113
	Vahid Yaghoubi, Yousheng Chen, Andreas Linderholt, and Thomas Abrahamsson	
11	Fatigue Dynamics Under Statistically and Spectrally Similar Deterministic and Stochastic Excitations	125
	Son Hai Nguyen, Michael Falco, Ming Liu, and David Chelidze	
12	Forced Response of a Nonlinear Translating Brake Band in the Presence of Friction Guides	135
	Osman Taha Sen, Jason T. Dreyer, and Rajendra Singh	
13	Obtaining Linear FRFs for Model Updating in Structures with Multiple Nonlinearities Including Friction	145
	Güvenç Canbaloglu and H. Nevzat Özgüven	
14	LDV Measurement of Local Nonlinear Contact Conditions of Flange Joint	159
	V. Ruffini, C.W. Schwingshackl, and J.S. Green	

15	Experimental Study of Joint Linearity	169
	Brandon R. Zwink and Laura D. Jacobs-Omalley	
16	Nonlinear Modal Decomposition Using Normal Form Transformations	179
	Simon A. Neild, Andrea Cammarano, and David J. Wagg	
17	Nonlinear Normal Modes of Nonconservative Systems	189
	L. Renson and G. Kerschen	
18	Discrete Empirical Interpolation Method for Finite Element Structural Dynamics	203
	Paolo Tiso and Daniel J. Rixen	
19	Nonlinear Forced Dynamics of Planar Arches	213
	R. Alaggio, F. Benedettini, and D. Zulli	
20	Investigation of Jointed Structures Using the Multiharmonic Balance Method	223
	Dominik Süß, Martin Jersch, and Kai Willner	
21	The Nonlinear Tuned Vibration Absorber	229
	R. Vigié and G. Kerschen	
22	Response of a Pendulum TMD with Large Displacements	239
	P.M. López-Reyes, A. Lorenzana, A.V. Belver, and C.E. Lavín	
23	The Experimental Performance of a Nonlinear Dynamic Vibration Absorber	247
	Yung-Sheng Hsu, Neil S. Ferguson, and Michael J. Brennan	
24	The Effects of Clutch Damper in Idling Driveline Rattle	259
	Nobutaka Tsujiuchi, Takayuki Koizumi, Naoki Hara, Yoshihiro Yamakaji, and Kazuhiro Yamashita	
25	Nonlinear Free Vibration of Curved Double Walled Carbon Nanotubes Using Differential Quadrature Method	269
	Hamed Samandari and Ender Cigeroglu	
26	Reanalysis of Large Finite Element Models with Structural Nonlinearities	281
	Burcu Sayin and Ender Cigeroglu	
27	Quantifying Penetration Depth of Damage in Concrete Structures Using Nonlinear Elastic Wave Spectroscopy	289
	Anthony Chyr, Garrett W. Idler, Colton R. Lake, and T.J. Ulrich	
28	Investigating Cases of Jump Phenomenon in a Nonlinear Oscillatory System	299
	Hamid A. Ardeh and Matthew S. Allen	
29	Modelling of Gear Meshing: A Numerical Approach for Dynamic Behavior Estimation of Thin Gears	319
	Francesca Curà and Carlo Rosso	
30	Influence of the Support Conditions in the Modal Parameters of a Cantilever Beam	335
	Rubén Arenillas, Manuel L. Aenlle, Pelayo Fernández, and Alfonso Fernández-Canteli	

Topics in Nonlinear Dynamics, Volume 1
Proceedings of the 31st IMAC, A Conference on
Structural Dynamics, 2013
Kerschen, G.; Adams, D.; Carrella, A. (Eds.)
2013, VIII, 341 p., Hardcover
ISBN: 978-1-4614-6569-0