

# Contents

<b>1</b>	<b>Techniques for Verification of Structural Acoustic Models</b> .....	<b>1</b>
	Hasan G. Pasha and Rajendra Gunda	
<b>2</b>	<b>Substructuring of Viscoelastic Subcomponents with Interface Reduction</b> .....	<b>17</b>
	Robert J. Kuether and Kevin L. Troyer	
<b>3</b>	<b>Parameter Estimation of Joint Models Using Global Optimization</b> .....	<b>29</b>
	Robert J. Kuether and David A. Najera	
<b>4</b>	<b>Real-Time Hybrid Simulation of an Unmanned Aerial Vehicle</b> .....	<b>41</b>
	Markus J. Hochrainer and Peter Schattovich	
<b>5</b>	<b>An Integration of Mixed Contact Formulation with Model-Reduction Techniques</b> .....	<b>49</b>
	Blaž Starc, Gregor Čepón, and Miha Boltežar	
<b>6</b>	<b>Identification Reassembly Uncertainties for a Basic Lap Joint</b> .....	<b>53</b>
	C.W. Schwingshackl	
<b>7</b>	<b>Effect of Far-Field Structure on Joint Properties</b> .....	<b>63</b>
	S.B. Cooper, M. Rosatello, A.T. Mathis, K. Johnson, M.R.W. Brake, Matthew S. Allen, A.A. Ferri, D.R. Roettgen, B.R. Pacini, and Randall L. Mayes	
<b>8</b>	<b>Real-Time Hybrid Model Testing of Moored Floating Structures Using Nonlinear Finite Element Simulations</b> .....	<b>79</b>
	Stefan A. Vilsen, Thomas Sauder, and Asgeir J. Sørensen	
<b>9</b>	<b>DIC Measurement of the Kinematics of a Friction Damper for Turbine Applications</b> .....	<b>93</b>
	L. Pesaresi, M. Stender, V. Ruffini, and C.W. Schwingshackl	
<b>10</b>	<b>A Simultaneous Iterative Scheme for the Craig-Bampton Reduction Based Substructuring</b> .....	<b>103</b>
	Jie Cui, Jianwei Xing, Xing Wang, Yunjie Wang, Shijie Zhu, and Gangtie Zheng	
<b>11</b>	<b>Using Blocked Force Data for Vibro-Acoustic Prediction and Simulation</b> .....	<b>115</b>
	A.T. Moorhouse, A.S. Elliott, and J.W.R. Meggitt	
<b>12</b>	<b>CMS with Large Contact Patches</b> .....	<b>119</b>
	P. Coffin, A.R. Brink, M.T. Merewether, and N.K. Crane	
<b>13</b>	<b>In Situ Measurements of Contact Pressure for Jointed Interfaces During Dynamic Loading Experiments</b> ..	<b>133</b>
	M.R.W. Brake, J.G. Stark, S.A. Smith, D.P.T. Lancereau, T.W. Jerome, and T. Dossogne	
<b>14</b>	<b>Dual Craig-Bampton Method with Reduction of Interface Coordinates</b> .....	<b>143</b>
	Fabian M. Gruber, Tim L. Burchner, Daniel Jean Rixen	
<b>15</b>	<b>Substructuring of a Nonlinear Beam Using a Modal Iwan Framework, Part I: Nonlinear Modal Model Identification</b> .....	<b>165</b>
	Daniel Roettgen, Matthew S. Allen, Daniel Kammer, and Randall L. Mayes	

<b>16 Substructuring of a Nonlinear Beam Using a Modal Iwan Framework, Part II: Nonlinear Modal Substructuring</b> .....	179
Daniel Roettgen, Matthew S. Allen, Daniel Kammer, and Randall L. Mayes	
<b>17 Dynamic Decoupling of Nonlinear Systems</b> .....	199
Taner Kalaycıoğlu and H. Nevzat Özgüven	
<b>18 Nonlinear Substructuring Using Fixed Interface Nonlinear Normal Modes</b> .....	205
Marco Falco, Morteza Karamooz Mahdiabadi, and Daniel Jean Rixen	
<b>19 Dynamic Substructuring of Geometrically Nonlinear Finite Element Models Using Residual Flexibility Modes</b> .....	215
Morteza Karamooz Mahdiabadi, Erhard Buchmann, Duo Xu, Andreas Bartl, and Daniel Jean Rixen	
<b>20 Optimal Transformation of Frequency Response Functions on Interface Deformation Modes</b> .....	225
M. Häußler and Daniel Jean Rixen	
<b>21 A Recursive Coupling-Decoupling Approach to Improve Experimental Frequency Based Substructuring Results</b> .....	239
R. Cumbo, S. Manzato, G. Coppotelli, A. Fregolent, and W. D'Ambrogio	
<b>22 Experimental Assessment of the Influence of Interface Geometries on Structural Dynamic Response</b> .....	255
T. Dossogne, T.W. Jerome, D.P.T. Lancereau, S.A. Smith, M.R.W. Brake, B.R. Pacini, P. Reuß, and C.W. Schwingshackl	
<b>23 Nonlinear Finite Element Model Updating, Part I: Experimental Techniques and Nonlinear Modal Model Parameter Extraction</b> .....	263
Benjamin R. Pacini, Randall L. Mayes, Brian C. Owens, and Ryan A. Schultz	
<b>24 A Simpler Formulation for Effective Mass Calculated from Experimental Free Mode Shapes of a Test Article on a Fixture</b> .....	275
Randall L. Mayes and Patrick S. Hunter	
<b>25 Nonlinear Finite Element Model Updating, Part II: Implementation and Simulation</b> .....	285
Brian C. Owens, Ryan A. Schultz, Benjamin R. Pacini, and Randall L. Mayes	
<b>26 A Benchmark Structure for Validation of Experimental Substructuring, Transfer Path Analysis and Source Characterisation Techniques</b> .....	295
M.V. van der Seijs, E.A. Pasma, D.D. van den Bosch, and M.W.F. Wernsen	
<b>27 Nonlinear Modal Substructuring of Panel and Stiffener Assemblies via Characteristic Constraint Modes</b> ..	307
Joseph D. Schoneman, Matthew S. Allen, and Robert J. Kuether	
<b>28 Experimental Evaluation of Multi-functional Nonlinear Floor Isolation Systems</b> .....	327
P. Scott Harvey, Nisal Halaba Arachchige Senarathna, Corey D. Casey	
<b>29 Variability of Dynamic Response in Jointed Structures</b> .....	331
D. Di Maio, Z. Mitha, J.V. Paul, and X. Chi	
<b>30 Predicting the Dynamics of Flexible Space Payloads Under Different Boundary Conditions Through Substructure Decoupling</b> .....	349
Walter D'Ambrogio and Annalisa Fregolent	
<b>31 Evolutionary Identification of Block-Structured Systems</b> .....	359
M. Schoukens and K. Worden	
<b>32 Modal Analysis of Transmission Line Cables</b> .....	367
Nilson Barbieri, Marcos José Mannala, Renato Barbieri, Mayara Kelly Tenório Calado, and Gabriel de Sant'Anna Vitor Barbieri	

Dynamics of Coupled Structures, Volume 4  
Proceedings of the 35th IMAC, A Conference and  
Exposition on Structural Dynamics 2017

Allen, M.; Mayes, R.; Rixen, D.J. (Eds.)

2017, VIII, 370 p. 276 illus., 244 illus. in color.,

Hardcover

ISBN: 978-3-319-54929-3