

Contents

1	Fatigue Behaviour of Stainless Steels: A Multi-parametric Approach	1
	R. De Finis, D. Palumbo, F. Ancona, and U. Galietti	
2	Measurement of Mechanical Dissipation in SMAs by Infrared Thermography	9
	Didier Delpueyo, Xavier Balandraud, Michel Grédiac, Sergiu Stanciu, and Nicanor Cimpoesu	
3	The Effect of Microstructure on Energy Dissipation in 316L Stainless Steel	15
	P.J. Seelan, J.M. Dulieu-Barton, and F. Pierron	
4	Large Area Nondestructive Evaluation of a Fatigue Loaded Composite Structure	21
	Joseph N. Zalameda, Eric R. Burke, Michael R. Horne, and Eric I. Madaras	
5	Sensitivity Analysis of Hybrid Thermoelastic Techniques	29
	W.A. Samad and J.M. Considine	
6	Determining Stress Intensity Factors Using Hybrid Thermoelastic Analysis	37
	R.B. Vieira, G.L.G. Gonz��les, and J.L.F. Freire	
7	Stress Analysis of a Finite Orthotropic Plate Containing an Elliptical Hole from Recorded Temperature Data	47
	A. Alshaya, X. Shuai, and R. Rowlands	
8	Using TSA to Identify Regions Having Developed Plastic Strain during Welding	57
	Geoffrey P. Howell, Janice M. Dulieu-Barton, and Mithila Achintha	
9	Finite Element Modelling of a Series of Austenitic Stainless Steel 316 L Weldments to Inform Thermoelastic Stress Analysis Residual Stress Assessment	63
	E.C. Chevallier, S. Blackwell, and J.M. Dulieu-Barton	
10	Residual Stress Measurement of Full-Scale Jet-Engine Bearing Elements Using the Contour Method	69
	Daulton D. Isaac, Michael B. Prime, and Nagaraj Arakere	
11	ESPI Hole-Drilling of Rings and Holes Using Cylindrical Hole Analysis	83
	T.J. Rickert and Wade Gubbels	
12	Preliminary Study on Residual Stress in FDM Parts	91
	C. Casavola, A. Cazzato, V. Moramarco, and G. Pappaletta	
13	Predicting Residual Stress on X-ray Tomographed Complex Bi-Layer Geometries using 3D Finite Element Analysis	97
	Masoud Allahkarami, Leila Seyed Faraji, and Jay C. Hanan	
14	Combining Hole-Drilling and Ring-Core Techniques	105
	Antonio Baldi	

15	A Low-Cost Residual Stress Measuring Instrument	113
	Antonio Baldi and Filippo Bertolino	
16	Non-Destructive Internal Lattice Strain Measurement Using High Energy Synchrotron Radiation	121
	Jun-Sang Park and John Okasinski	
17	Discussion on X-Ray and HDM Residual Stress Measurements	127
	C. Barile, C. Casavola, and V. Moramarco	
18	Reducing Full-Field Identification Cost by Using Quasi-Newton Methods	135
	J. Neggers, F. Mathieu, S. Roux, and F. Hild	
19	Parameter Identification of Nonlinear Viscoelastic Material Model Using Finite Element-Based Inverse Analysis	141
	Salah U. Hamim and Raman P. Singh	
20	Stiffness Heterogeneity of Multiply Paperboard Examined with VFM	151
	Anton Hagman, J.M. Considine, and Mikael Nygård	
21	Rigid-Body Motion Tolerance for Industrial Helical CT Measurements of Logs	161
	Edward Angus and Gary S. Schajer	
22	Development and Experimental Validation of Thermally Stable Unimorph SMP Actuators Incorporating Transverse Curvature	175
	Jason T. Cantrell and Peter G. Ifju	
23	Identification of Constitutive Model Parameters in Hopkinson Bar Tests	189
	M. Fardmashiri, M. Sasso, E. Mancini, G. Chiappini, and M. Rossi	

Residual Stress, Thermomechanics & Infrared Imaging,
Hybrid Techniques and Inverse Problems, Volume 9
Proceedings of the 2016 Annual Conference on
Experimental and Applied Mechanics
Quinn, S.; Balandraud, X. (Eds.)
2017, VIII, 198 p. 170 illus., 131 illus. in color.,
Hardcover
ISBN: 978-3-319-42254-1