

Contents

1	Residual Stresses in Bovine Femurs	1
	Yongbo Zhang and Drew Nelson	
2	Experimental Stress Analysis of Unsymmetrical, Irregularly-Shaped Structure Containing an Arbitrarily-Shaped Hole	9
	B. Kalaycioglu, A. Alshaya, and R. Rowlands	
3	Quantitative Calorimetry and TSA in Case of Low Thermal Signal and Strong Spatial Gradients: Application to Glass Materials	13
	Guillaume Corvec, Eric Robin, Jean-Benoît Le Cam, Pierre Lucas, Jean-Christophe Sangleboeuf, and Frédéric Canevet	
4	A New Denoising Methodology to Keep the Spatial Resolution of IR Images Equal to 1 Pixel	21
	Guillaume Corvec, Eric Robin, Jean-Benoît Le Cam, Jean-Christophe Sangleboeuf, and Pierre Lucas	
5	Calorific Signature of PLC Bands Under Biaxial Loading Conditions in Al-Mg Alloys	29
	Jean-Benoît Le Cam, Eric Robin, Lionel Leotoing, and Dominique Guines	
6	How Does Cristallizable Rubber Use Mechanical Energy to Deform?	37
	Jean-Benoît Le Cam	
7	Use of Bulge Test Geometry for Material Property Identification	43
	John M. Considine and X. Tang	
8	Crystal Plasticity Parameter Identification by Integrated DIC on Microscopic Topographies	47
	J. P. M. Hoefnagels, M. Bertin, C. Du, and F. Hild	
9	Comparison of Residual Stress Characterization Techniques Using an Interference Fit Sample	51
	Jun-Sang Park, John Okasinski, Jonathan Almer, Paul Shade, and T.J. Turner	
10	Influence of Thermographic Image Filtering on Hybrid TSA	57
	W. A. Samad and X. Balandraud	
11	Optical Analysis of Residual Stress with Minimum Invasion	65
	Sanichiro Yoshida, Fumiya Miura, Tomohiro Sasaki, Daniel Didie, and Shahab Rouhi	
12	Determination of Constitutive Properties in Inverse Problem Using Airy Stress Function	73
	A. Alshaya, John M. Considine, and R. Rowlands	
13	High-Speed Infrared Imaging for Material Characterization in Experimental Mechanic Experiments	83
	Marc-André Gagnon, Frédérick Marcotte, Philippe Lagueux, and Vince Morton	
14	A Spatio-Temporal Approach for iDIC-Residual Stress Measurement	91
	Antonio Baldi	
15	Detection of Early Stage Material Damage Using Thermophysical Properties	95
	Mulugeta A. Haile, Natasha C. Bradly, Michael D. Coatney, and Asha J. Hall	

16	Repeatability of Contour Method Residual Stress Measurements for a Range of Material, Process, and Geometry	101
	Mitchell D. Olson, Adrian T. DeWald, and Michael R. Hill	
17	System Identification of Structures with Modal Interference	115
	Chang-Sheng Lin	
18	Influence of Printing Constraints on Residual Stresses of FDM Parts	121
	C. Casavola, A. Cazzato, V. Moramarco, and G. Pappalettera	

Residual Stress, Thermomechanics & Infrared Imaging,
Hybrid Techniques and Inverse Problems, Volume 8
Proceedings of the 2017 Annual Conference on
Experimental and Applied Mechanics
Baldi, A.; Considine, J.; Quinn, S.; Balandraud, X. (Eds.)
2018, VIII, 127 p. 108 illus., 93 illus. in color., Hardcover
ISBN: 978-3-319-62898-1