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Titolo	Challenges in Mechanics of Biological Systems and Materials, Thermomechanics and Infrared Imaging, Time Dependent Materials and Residual Stress, Volume 2 : Proceedings of the 2023 Annual Conference & Exposition on Experimental and Applied Mechanics // edited by Christian Franck, Karen Kasza, Jon Estrada, Rosa De Finis, Geir Ólafsson, Suhasini Gururaja, Jevan Furmanski, Aaron Forster, Pavan Kolluru, Mike Prime, Tom Berfield, Cahit Aydiner
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Soggetti	Biomedical engineering Biomechanics Materials - Analysis Imaging systems Biomechanical Analysis and Modeling Biomedical Engineering and Bioengineering Imaging Techniques Materials Characterization Technique Characterization and Analytical Technique
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Nota di contenuto	Chapter 1. Development of PEEK matrix polymer composite and additive manufacturing by pellet extrusion method -- Chapter 2. Parkinsonian Hand Tremor Mitigation with Enhanced Wearable Device -- Chapter 3. Quantitative Measurement of Viscoelastic Properties of Soft Membranes Subjected to Finite Deformations based on Optical Coherence Elastography -- Chapter 4. Open Source Contour Method Analysis for Assessing Residual Stress in Weldments -- Chapter 5. Variation of initial bulk residual stresses in aluminum alloy 7050-T7451 and its effect on distortion of thin-walled structural parts --

Chapter 6. On the Use of iDIC (Integrated Digital Image Correlation) for the Slitting Method -- Chapter 7. A rapid procedure to re-construct S/N curve by using harmonic components of thermal signal -- Chapter 8. Rapid Fatigue Characterisation via Infrared Thermography of AM-CM Composites -- Chapter 9. Condition Assessment by Thermal Emission (CATE) for in situ monitoring of fatigue crack growth -- Chapter 10. Effect of geometrical discontinuities on mode shapes stress maps using infrared thermography -- Chapter 11. Induction thermography: influence of testing parameters for different crack geometry -- Chapter 12. Numerical Simulation of the Heat Dissipation During the Fatigue Test -- Chapter 13. A full experimental characterization of aged Nitrile Butadiene Rubbers (NBR) -- Chapter 14. Characterization of the Effect of Cold Joints and Functional Grading in Stepwise Constructed Tensile Dog Bones with Embedded Digital Image Correlation.

Sommario/riassunto

Challenges in Mechanics of Biological Systems and Materials, Thermomechanics and Infrared Imaging, Time Dependent Materials and Residual Stress, Volume 2 of the Proceedings of the 2023 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the second volume of five 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 Experimental Mechanics, including papers in the following general technical research areas: Advanced Thermographic Techniques for SHM AM Composites and Polymers Experimental Techniques in Biomechanics and Mechanobiology Inverse Methodologies and Uncertainties in the Identification of Residual Stresses, Residual Stress IV Low Cost Thermographic Applications Multiscale Mechanics of Biological Materials NDE and Process Monitoring Residual Stress Thermomechanics Time Dependence in Porous and Soft Materials.
