1. Record Nr. UNINA9910373905403321

Titolo	Residual Stress, Thermomechanics & Infrared Imaging and Inverse Problems, Volume 6 : Proceedings of the 2019 Annual Conference on Experimental and Applied Mechanics / / edited by Antonio Baldi, Sharlotte L. B. Kramer, Fabrice Pierron, John Considine, Sven Bossuyt, Johan Hoefnagels
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	87-438-0363-6 87-7004-995-5 3-030-30098-6
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (VIII, 169 p. 127 illus., 103 illus. in color.)
Collana	Conference Proceedings of the Society for Experimental Mechanics Series, , 2191-5652
Disciplina	620.112
Soggetti	Mechanics, Applied Solids Statics Materials - Analysis Civil engineering Solid Mechanics Mechanical Statics and Structures Characterization and Analytical Technique Civil Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Regularization Uncertainty in Slitting Residual Stress Measurement -- 2. Walkthrough and History of the Virtual Fields Method -- 3. Low-Cost Thermoelastic Stress Analysis -- 4. Keynote: Residual Stresses in Biological Materials -- 5. The Effect of Residual Stress on Aluminum Strength using Thermoelatic Stress Analysis -- 6. Calibration of Anisotropic Plasticity Models with an Optimized Heterogeneous Test and the Virtual Fields Method -- 7. One-Dimensional Heat Source Reconstruction Applied to Phase Transforming Superelastic Ni-Ti Wire

-- 8. Coupled NIRT/3D-DIC for a FEMU Identification of the Thermo-mechanical Behavior of Zr-4 Claddings under Simulated Reactivity Initiated Accident -- 9. Quench-induced Residual Stress in Complex Geometry: Measurement and Modeling by Eigenstrain -- 10. Residual Stresses at Critical Locations in Additively-Manufactured Components -- 11. Identification of Constitutive Parameters Governing the Hyperelastic Response of Rubber by Using Full-field Measurement and the Virtual Fields Method -- 12. Intermethod Comparison and Evaluation of Near Surface Residual Stress in Aluminum Parts Subject to Various Milling Parameters -- 13. Inversion of Residual Stresses in Silicon Wafer from Surface Deflection Measurements -- 14. Evaluating the Coefficient of Thermal Expansion of Electronic Board Using the Virtual Fields Method -- 15. Identification of Constitutive Parameters from Full Thermal and Kinematic Fields: Application to Hyperelasticity -- 16. Calorific Analysis of a Granular System made in Shape Memory Alloy -- 17. Dynamic VFM to Identify Viscoplastic Parameters. Analysis of Impact Tests on Titanium Alloy -- 18. Keynote: Test Design for Identification from Full-field Measurements: A Concise Review -- 19. Stress Determination for Granular Materials Using TSA: An Inverse Approach -- 20. Evaluation of Fatigue Crack Growth Behavior and Effect of Repair Work Based on Thermoelastic Stress Analysis for Steel Bridge Members -- 21. Analysis of Deformations in Crush Tests of Lithium Ion Battery Cells -- 22. In-situ thermal monitoring of printed components during rapid prototyping by Fused Deposition Modeling -- 23. Development of an Inverse Identification Method for Identifying Hyperelastic Constitutive Parameters by Metaheuristic Optimization Algorithm -- 24. MIMO Input Derivations, Optimizing Input Force Against Output Accuracy -- 25. Evaluation of Sensitivity-Based Virtual Fields for Non-Linear Parameter Identification Including DIC Filtering Effects -- 26. Identification of Inhomogeneous Plastic Constitutive Models of Friction Stir Welded Aluminum Alloy Sheets Using Virtual Fields Method -- 27. Accuracy Improvement of Thermoelastic Stress and Dissipation Energy Measurement by Motion Compensation with Optical-Infraredynchronous Measurement.

Sommario/riassunto

Residual Stress, Thermomechanics & Infrared Imaging and Inverse Problems, Volume 6 of the Proceedings of the 2019 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the sixth volume of six from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on a wide range of areas, including: Test Design and Inverse Method Algorithms Inverse Problems: Virtual Fields Method Residual Stresses: Measurement, Uncertainty & Validation Residual Stresses: Eigenvalues, Modeling, & Crack Growth Material Characterizations Using Thermography Fatigue, Damage & Fracture Evaluation Using Infrared Thermography .