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Soggetti	Mechanics Mechanics, Applied Materials science Computer-aided engineering Engineering—Materials Theoretical and Applied Mechanics Characterization and Evaluation of Materials Computer-Aided Engineering (CAD, CAE) and Design Materials Engineering
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	1 Fatigue Behaviour of Stainless Steels A Multi Parametric Approach -- 2 Measurement of Mechanical Dissipation in SMAs by Infrared Thermography -- 3 The Effect of Microstructure on Energy Dissipation in 316L Stainless Steel -- 4 Large Area Nondestructive Evaluation of a Fatigue Loaded Composite Structure -- 5 Sensitivity Analysis of Hybrid Thermoelastic Techniques -- 6 Determining Stress Intensity Factors Using Hybrid Thermoelastic Analysis -- 7 Stress Analysis of a Finite Orthotropic Plate Containing an Elliptical Hole from Recorded Temperature Data -- 8 Using TSA to Identify Regions Having Developed Plastic Strain During Welding -- 9 Finite Element Modelling of a Series of Austenitic Steel 316L Weldments to Inform Thermoelastic Stress

Analysis Residual Stress Assessment -- 10 Residual Stress Measurement of Full Scale Jet Engine Bearing Elements Using the Contour Method -- 11 ESPI Hole Drilling of Rings and Holes Using Cylindrical Hole Analysis -- 12 Preliminary Study on Residual Stress in FDM Parts -- 13 Predicting Residual Stress on X ray Tomographed Complex Bi Layer Geometries Using 3D Finite Element Analysis -- 14 Combining Hole Drilling and Ring Core Techniques -- 15 A Low Cost Residual Stress Measuring Instrument -- 16 Non destructive Internal Strain Measurement Using High Energy Synchrotron Radiation -- 17 Discussion on X Ray and HDM Residual Stress Measurements -- 18 Reducing Full Field Identification Cost by Using Quasi Newton Methods -- 19 Parameter Identification of Nonlinear Viscoelastic Material Model using Finite Element based Inverse Analysis -- 20 Stiffness Heterogeneity of Multiply Paperboard Examined with VFM -- 21 Rigid Body Motion Tolerance for Industrial Helical CT Measurements of Logs -- 22 Development and Experimental Validation of Thermally Stable Unimorph SMP Actuators Incorporating Transverse Curvature -- 23 Identification of constitutive model parameters in Hopkinson Bar tests.

Sommario/riassunto

Residual Stress, Thermomechanics & Infrared Imaging, Hybrid Techniques and Inverse Problems, Volume 9 of the Proceedings of the 2016 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the ninth volume of ten 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: Damage Analysis from Thermal Measurements Quantitative Visualization Stress Analysis from Thermal Measurements New Approaches to Residual Stress Measurement Residual Stress & Optical Methods Non-homogeneous Parameters Identification General Inverse Methods Residual Stress Measurement by X-Ray Diffraction.
