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Nota di contenuto	Chapter1. A New Method for Improving Measurement Accuracy of Digital Image Correlation -- Chapter2. Fatigue Analysis of 7075 Aluminum Alloy by Optoacoustic Method -- Chapter3. Early Strain Localization in Strong Work Hardening Aluminium Alloy (2198 T3): 3D Laminography and DVC Measurement -- Chapter4. On the In-Plane Displacement Measurement by 3D Digital Image Correlation Method -- Chapter5. Noise Reduction in Amplitude-Fluctuation Electronic Speckle-Pattern Interferometry -- Chapter6. Evaluating Path of Stress Triaxiality to Fracture of Thin Steel Sheet Using Stereovision -- Chapter7. Studying with a Full-Field Measurement Technique the Local Response of Asphalt Specimens Subjected to Freeze-Thaw Cycles --

Chapter8. Mechanical Shape Correlation: An Integrated Image Correlation Approach -- Chapter9. On the Boundary Conditions and Optimization Methods in Integrated Digital Image Correlation -- Chapter10. Extension of the Monogenic Phasor Meth od To Extract Displacements and Their Derivatives From 3-D Fringe Patterns -- Chapter11. Deformation Measurement within a Volume of Translucent Yield Stress Material Using Digital Image Correlation -- Chapter12. Surface Deformation with Simultaneous Contact area Measurement for Soft Transparent Media due to Spherical Contact -- Chapter13. Towards Measuring Intergranular Force Transmission Using Confocal Microscopy and Digital Volume Correlation -- Chapter14. Using Anti-Aliasing Camera Filters for DIC: Does it Make a Difference? -- Chapter15. Investigation of Electronic Speckle Pattern Interferometry with Line Laser Scanning for Large Area Deformation Measurement -- Chapter16. Internal Heat Generation in Dynamic Tension Tests of AISI 316 using Full-Field Temperature and Strain Measurements -- Chapter17. A Short Survey on Residual Stress Measurements by HDM and ESPI -- Chapter18. Feasibility of Using Fringe Projection System for Corrosion Monitoring in Metals of Interest in Cultural Heritage.

Sommario/riassunto

Advancement of Optical Methods in Experimental Mechanics, Volume 3 of the Proceedings of the 2017 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the third volume of nine 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 optical methods ranging from traditional photoelasticity and interferometry to more recent DIC and DVC techniques, and includes papers in the following general technical research areas.