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Nota di contenuto	Health Monitoring of Aerospace Structures; Contents; List of Contributors; Preface; ACKNOWLEDGEMENTS; 1 Introduction; 1.1 Health and Usage Monitoring in Aircraft Structures - Why and How?; 1.2 Smart Solution in Aircraft Monitoring; 1.3 End-User Requirements; 1.3.1 Damage Detection; 1.3.2 Load History Monitoring; 1.4 Assessment of Monitoring Technologies; 1.5 Background of Technology Qualification Process; 1.6 Technology Qualification; 1.6.1 Philosophy; 1.6.2 Performance and Operating Requirements; 1.6.3 Qualification Evidence - Requirements and Provision; 1.6.4 Risks 1.7 Flight Vehicle Certification1.8 Summary; References; 2 Aircraft

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 2.7.1 Visual Inspection 2.7.2 Ultrasonic Inspection; 2.7.3 Eddy Current; 2.7.4 Acoustic Emission; 2.7.5 Radiography, Thermography and Shearography; 2.7.6 Summary; 2.8 Structural Health Monitoring; 2.8.1 Vibration and Modal Analysis; 2.8.2 Impact Damage Detection; 2.9 Emerging Monitoring Techniques and Sensor Technologies; 2.9.1 Smart Structures and Materials; 2.9.2 Damage Detection Techniques; 2.9.3 Sensor Technologies; 2.9.4 Intelligent Signal Processing; 2.10 Conclusions; References; 3 Operational Load Monitoring Using Optical Fibre Sensors; 3.1 Introduction; 3.2 Fibre Optics
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 4.6.1 Piezoelectricity and Piezoelectric Materials

Sommario/riassunto

Providing quality research for the reader, this title encompasses all the recent developments in smart sensor technology for health monitoring in aerospace structures, providing a valuable introduction to damage detection techniques. Focussing on engineering applications, all chapters are written by smart structures and materials experts from aerospace manufacturers and research/academic institutions. This key reference: Discusses the most important aspects related to smart technologies for damage detection; this includes not only monitoring techniques but also aspects r
