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Nota di contenuto	Structural Health Monitoring; Table of Contents; Foreword; Chapter 1. Introduction to Structural Health Monitoring; 1.1. Definition of Structural Health Monitoring; 1.2. Motivation for Structural Health Monitoring; 1.3. Structural Health Monitoring as a way of making materials and structures smart; 1.4. SHM and biomimetics; 1.5. Process and pre-usage monitoring as a part of SHM; 1.6. SHM as a part of system management; 1.7. Passive and active SHM; 1.8. NDE, SHM and NDECS; 1.9. Variety and multidisciplinarity: the most remarkable characters of SHM 1.10. Birth of the Structural Health Monitoring Community1.11. Conclusion; 1.12. References; Chapter 2. Vibration-Based Techniques for Structural Health Monitoring; 2.1. Introduction; 2.2. Basic vibration

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Sommario/riassunto

This book is organized around the various sensing techniques used to achieve structural health monitoring. Its main focus is on sensors, signal and data reduction methods and inverse techniques, which enable the identification of the physical parameters, affected by the presence of the damage, on which a diagnostic is established. Structural Health Monitoring is not oriented by the type of applications or linked to special classes of problems, but rather presents broader families of techniques: vibration and modal analysis; optical fibre sensing; acousto-ultrasonics, using piezoelectr