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Nota di contenuto	Preface; Contents; Chapter 1. Structural Health Monitoring for Civil Infrastructure E.J. Cross, K. Worden and C.R. Farrar; 1. Introduction: SHM Ideology; 1.1. The aims of SHM; 1.2. Potential benefits of SHM; 1.3. Disambiguation: what SHM is not; 2. SHM in Practice; 2.1. Instrumentation for SHM; 2.2. Assessment of structural condition from measurements; 2.2.1. Feature Extraction; 2.2.2. Pattern Recognition for inference on structural condition from features; 2.3. Validation of SHM systems; 2.4. Fundamental axioms of SHM; 3. Civil Infrastructure and SHM; 4. Benchmarks; 4.1. The I-40 Bridge 4.2. The Steelquake Structure 4.3. The Z24 Bridge; 5. Case Study: Z24 Bridge; 6. Continuing Challenges in SHM; Acknowledgments; References; Chapter 2. Enhanced Damage Locating Vector Method for Structural Health Monitoring S. T. Quek, V. A. Tran, and N. N. K. Lee; 1. The DLV Method Introduction; 1.1. General concept; 1.2. Normalized cumulative energy (NCE); 2. Identifying Actual Damage Elements; 2.1. Intersection scheme; 3. Formulation of Flexibility Matrix at Sensor Location; 3.1. Forming flexibility matrix using static responses; 3.1.1.

Static responses with load of known magnitude

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Sommario/riassunto

Health Assessment of Engineered Structures has become one of the most active research areas and has attracted multi-disciplinary interest. Since available financial resources are very limited, extending the lifespan of existing bridges, buildings and other infrastructures has become a major challenge to the engineering profession world-wide. Some of its related areas are only in their development phase. As the study of structural health assessment matures, more new areas are being identified to complement the concept. This book covers some of the most recent developments (theoretical and exper

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