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Titolo	Structural Health Monitoring : An Advanced Signal Processing Perspective // edited by Ruqiang Yan, Xuefeng Chen, Subhas Chandra Mukhopadhyay
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Collana	Smart Sensors, Measurement and Instrumentation, , 2194-8402 ; ; 26
Disciplina	362.1
Soggetti	Signal processing Image processing Speech processing systems Biomedical engineering Industrial engineering Production engineering Physical measurements Measurement Signal, Image and Speech Processing Biomedical Engineering and Bioengineering Industrial and Production Engineering Measurement Science and Instrumentation
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Advanced Signal Processing for Structural Health Monitoring -- Signal Post-Processing for Accurate Evaluation of the Natural Frequencies -- Holobalancing Method and its Improvement by Reselection of Balancing Object -- Wavelet Transform Based On Inner Product for Fault Diagnosis of Rotating Machinery -- Wavelet Based Spectral Kurtosis and Kurtogram: A Smart and Sparse Characterization of Impulsive Transient Vibration -- Time-Frequency Manifold for Machinery Fault Diagnosis -- Matching Demodulation Transform and its Application in Machine Fault Diagnosis -- Compressive Sensing: A New Insight to Condition

Monitoring of Rotary Machinery -- Sparse Representation of the Transients in Mechanical Signals -- Fault Diagnosis of Rotating Machinery Based on Empirical Mode Decomposition -- Bivariate Empirical Mode Decomposition and Its Applications in Machine Condition Monitoring -- Time-Frequency Demodulation Analysis Based on LMD and Its Applications -- On The Use of Stochastic Resonance in Mechanical Fault Signal Detection.

Sommario/riassunto

This book highlights the latest advances and trends in advanced signal processing (such as wavelet theory, time-frequency analysis, empirical mode decomposition, compressive sensing and sparse representation, and stochastic resonance) for structural health monitoring (SHM). Its primary focus is on the utilization of advanced signal processing techniques to help monitor the health status of critical structures and machines encountered in our daily lives: wind turbines, gas turbines, machine tools, etc. As such, it offers a key reference guide for researchers, graduate students, and industry professionals who work in the field of SHM.
