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Nota di contenuto	PART ONE: Vibration Fundamentals: Introduction; Vibration Analysis Applications; Vibration Analysis Overview; Vibration Sources; Vibration Theory; Machine Dynamics; Vibration Data Types and Formats; Data Acquisition; Analysis Techniques. -- PART TWO: Frequency-Domain Analysis: Overview; Machine-Train Monitoring Parameters; Database Development; Vibration Data Acquisition; Trending Analysis; Failure Mode Analysis; Signature Analysis; Root-Cause Analysis. -- PART THREE: Resonance: Introduction; Types of Resonance; Examples of Resonance; Testing for Resonance; Mode Shape. -- PART FOUR: Real-Time Analysis: Overview; Applications; Data Acquisition; Analysis Setup; Transient (Waterfall) Analysis; Synchronous Time Averaging; Zoom Analysis; Torsional Analysis
Sommario/riassunto	In a single useful volume, Vibration Fundamentals explains the basic theory, applications, and benefits of vibration analysis, which is the dominant predictive maintenance technique used with maintenance management programs. All mechanical equipment in motion generates a vibration profile, or signature, that reflects its operating condition. This is true regardless of speed or whether the mode of operation is rotation, reciprocation, or linear motion. There are several predictive maintenance techniques used to monitor and analyze critical machines, equipment, and systems in a typical plant. These include vibration

analysis, ultrasonics, thermography, tribology, process monitoring, visual inspection, and other nondestructive analysis techniques. Of these techniques, vibration analysis is the dominant predictive maintenance technique used with maintenance management programs, and this book explains the basic theory, applications, and benefits in one easy-to-absorb volume that plant staff will find invaluable. This is the second book in a new series published by Butterworth-Heinemann in association with PLANT ENGINEERING magazine. PLANT ENGINEERING fills a unique information need for the men and women who operate and maintain industrial plants. It bridges the information gap between engineering education and practical application. As technology advances at increasingly faster rates, this information service is becoming more and more important. Since its first issue in 1947, PLANT ENGINEERING has stood as the leading problem-solving information source for America's industrial plant engineers, and this book series will effectively contribute to that resource and reputation. Provides information essential to industrial troubleshooting investigations Describes root-cause failure analysis Incorporates detailed equipment-design guidelines
