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Titolo	Laser Doppler Vibrometry [[electronic resource]] : A Multimedia Guide to its Features and Usage // edited by Enrico Primo Tomasini, Paolo Castellini
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Descrizione fisica	1 online resource (173 pages)
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Soggetti	Physical measurements Measurement Acoustical engineering Acoustics Materials science Microwaves Optical engineering Vibration Dynamical systems Dynamics Measurement Science and Instrumentation Engineering Acoustics Characterization and Evaluation of Materials Microwaves, RF and Optical Engineering Vibration, Dynamical Systems, Control
Lingua di pubblicazione	Inglese
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Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Supporting theory -- Chapter 3. Theory of vibrometry -- Chapter 4. Instrumentation -- Chapter 5. Metrology for Vibration and Shock Measurement by Laser Interferometry -- Chapter 6. References.
Sommario/riassunto	This book is a continuous learning tool for experienced technical staff facing laser vibrometry technology for the first time. The book covers

both theoretical aspects and practical applications of laser Doppler vibrometry, and is accompanied by a multimedia presentation that allows the audience to browse the content and come as close as possible to performing real experiments. After a brief introduction, Chapter 2 presents supporting theory, providing general information on light sources, light scattering and interference for a better understanding of the rest of the book. Chapter 3 examines the theory of laser vibrometers, explaining interferometers from an optical perspective and in terms of the related electronics. It also addresses options like tracking filters and different signal demodulation strategies, since these have a significant impact on the practical use of vibrometers. Chapter 4 explores the configurations that are encountered in today's instrumentation, with a focus on providing practical suggestions on the use of laser vibrometers. Lastly, Chapter 5 investigates metrology for vibration and shock measurements using laser interferometry, and analyses the uncertainty of laser vibrometers in depth.
