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Altri autori (Persone)	OelzeMichael L
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Nota di contenuto	Preface -- Part I: Backscatter Coefficient methods -- Chapter 1. Quantitative Ultrasound: an Emerging Technology for Detecting, Diagnosing, Imaging, Evaluating, and Monitoring Disease (Ernie Feleppa) -- Chapter 2. Quantitative Ultrasound: Scattering theory (Michael Oelze) -- Chapter 3. Quantitative Ultrasound: Experimental implementation (Michael Oelze) -- Chapter 4. Extracting Quantitative Ultrasonic Parameters from the Backscatter Coefficient (Aiguo Han) -- Part II: Attenuation Estimation Methods -- Chapter 5. Attenuation Compensation and Estimation (Timothy Bigelow and Yassin Labyed) -- Chapter 6. Recent advances in attenuation estimation (Ivan Rosado Mendez) -- Part III: Envelope Statistics Methods -- Chapter 7. Review of envelope statistics models for quantitative ultrasound imaging and

tissue characterization (Francois Destrempes and Guy Cloutier) -- Chapter 8. Information entropy and its applications (Po-Hsaing Tsui) -- Part IV: Ultrasound Computed Tomography -- Chapter 9. Ultrasound Tomography (Nicole Ruitter, Torsten Hopp, Michael Zapf and Hartmut Gemmek) -- Chapter 10. Full Wave Inversion and Inverse Scattering in Ultrasound Tomography/Volography (James Wiskin) -- Chapter 11. Clinical Importance of 3D Volography in Breast Imaging (John Klock) -- Part V: Acoustic microcopy -- Chapter 12. Acoustic Microscopy (Yoshifumi Saijo) -- Chapter 13. Advanced Topics in Quantitative Acoustic Microscopy (Cameron Hoerig and Jonathan Mamou) -- Part VI: Phantoms for Quantitative Ultrasound -- Chapter 14. Phantoms for Quantitative Ultrasound (Tim Stiles) -- Index.

Sommario/riassunto

Quantitative ultrasound (QUS) continues to mature as a research field and is primed to make a swift transition to routine preclinical and clinical applications. This book will serve two main purposes: Advanced education in QUS by providing a complete and thorough review of all theoretical, physical, and engineering aspects of QUS. Review of recent development of QUS by lead contributors in the research field. This 2nd edition will focus on 6 modern research topics related to quantitative ultrasound of soft tissues: Spectral-based methods for tissue characterization, tissue typing, cancer detection, etc. Attenuation estimation for tissue characterization and improving spectral based methods Envelope statistics analysis as a means of quantifying and imaging tissue properties. Ultrasound computed tomography for preclinical and clinical imaging. Scanning acoustic microscopy for forming images of mechanical properties of soft tissues with micron resolution. Phantoms for quantitative ultrasound.
