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Titolo	Imaging of Complex Media with Acoustic and Seismic Waves / / edited by Mathias Fink, William A. Kuperman, Jean-Paul Montagner, Arnaud Tourin
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ISBN	3-540-44680-X
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Descrizione fisica	1 online resource (XI, 339 p.)
Collana	Topics in Applied Physics, , 0303-4216 ; ; 84
Disciplina	620.2/8
Soggetti	Acoustics Solid state physics Spectrum analysis Microscopy Geophysics Solid State Physics Spectroscopy and Microscopy Geophysics/Geodesy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"With 162 Figures."
Nota di contenuto	Time-Reversal Invariance and the Relation between Wave Chaos and Classical Chaos -- Acoustic Time-Reversal Mirrors -- Ocean Acoustics, Matched-Field Processing and Phase Conjugation -- Time Reversal, Focusing and Exact Inverse Scattering -- Detection and Imaging in Complex Media with the D.O.R.T. Method -- Ultrasound Imaging and Its Modeling -- Nondestructive Acoustic Imaging Techniques -- Seismic Anisotropy Tomography -- Elastic-Wave Propagation in Random Polycrystals: Fundamentals and Application to Nondestructive Evaluation -- Imaging the Viscoelastic Properties of Tissue -- Estimation of Complex-Valued Stiffness Using Acoustic Waves Measured with Magnetic Resonance -- A New Approach for Traveltime Tomography and Migration Without Ray Tracing -- Simple Models in the Mechanics of Earthquake Rupture.
Sommario/riassunto	Acoustic and elastic wave propagation is being investigated in media

such as the ocean, the earth, biological tissues and solid materials. In these different areas, many specific imaging techniques have been developed which differ in the wavelength of the sound, its polarisation and the instrumentation used. In this interdisciplinary book, leading experts in underwater acoustics, seismology, acoustic medical imaging and non-destructive testing present basic concepts as well as the recent advances in imaging. The different subjects tackled show significant similarities. This volume gives an up-to-date-overwiew of the field and is intended for scientists and graduates alike.