Record Nr.	UNINA9910453557003321
Titolo	Acoustic interactions with submerged elastic structures . Part 3 Acoustic propagation and scattering, wavelets and time frequency analysis [[electronic resource] /] / editors, Ardeshir Guran [et al.]
Pubbl/distr/stampa	Singapore ; ; River Edge, NJ, : World Scientific, c2001
ISBN	1-281-95638-4 9786611956387 981-281-075-7
Descrizione fisica	1 online resource (444 p.)
Collana	Series on stability, vibration, and control of systems. Series B ; ; v. 5
Altri autori (Persone)	GuranA (Ardeshir)
Disciplina	620.25
Soggetti	Elastic analysis (Engineering) Underwater acoustics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	<ul> <li>Foreword; Preface; Contributors; Contents; Chapter 1: Three</li> <li>Dimensional Underwater Sound Propagation Over Sloping Bottoms; 1.</li> <li>Introduction; 2. The Ideal Wedge; 3. The Penetrable Wedge; 4.</li> <li>Laboratory Scale Experiments; 5. Ocean Acoustic Experiments; 6.</li> <li>Conclusion; 7. Acknowledgments; 8. References; Chapter 2: Modeling of Sound Propagation over a Shear-Supporting Sediment Layer and Substrate; 1. Introduction; 2. Results; 3. Summary; 4.</li> <li>Acknowledgements; 5. References; Chapter 3: Propagation of Acoustic Pulses in Layered Media; 1. Introduction; 2. One Layer; 3. Treatment of Interfaces</li> <li>4. Numerical Techniques5. Acknowledgments; 6. References; Chapter 4: Response of a Vibrating Structure to a Turbulent Flow Wall Pressure: Fluid-Loaded Structure Modes Series and Boundary Element Method; 1.</li> <li>Introduction; 2. Vibro-Acoustic Response of a Baffled Plate to a Deterministic Excitation; 3. Vibro-Acoustic Response of the System Baffled Plate - Fluid to a Random Excitation; 4. Vibro-Acoustic Response of a Baffled Plate Closing a Cavity and Excited by a Deterministic Harmonic Force or a Random Wall Pressure</li> </ul>

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	5. Numerical Solution of the Boundary Integral Equations for the Fluid Loaded Structure Problems and Examples6. Concluding Remarks; 7. Acknowledgements; 8. References; Chapter 5: Plane Evanescent Waves and Interface Waves; 1. Introduction; 2. The Evanescent Plane Wave Formalism; 3. The Plane Elastic Solid / Perfect Fluid Interface; 4. The Plane Elastic Plate in a Perfect Fluid; 5. Angular Resonances and Guided Waves; 6. Conclusion; 7. References; Chapter 6: Application of Wavelet Analysis to Inverse Scattering; 1. Introduction; 2. Wavelet Analysis 3. Comparison of Fourier and Wavelet Signal Pulse Reconstruction4. Wave Analysis Compression Applied to an Inverse Scattering Formalism; 5. Earlier Applications of Wavelet Analysis to Inverse Scattering; 6. Acknowledgements; 7. References; Chapter 7: Application of Time-Frequency Analysis to the Characterization of Acoustical Scattering; 1. Introduction; 2. Motivation of a Time-Frequency Approach: The Example of a Spherical Shell; 3. Time-Frequency Analysis Methods; 4. Simulations Results; 5. Experimental Results; 6. Conclusion; 7. Acknowledgments; 8. References Chapter 8: Acoustical Resonance Scattering Theory for Strongly Overlapping Resonances1. Introduction; 2. Scattering Resonances; 3. Properties of the Scattering Function; 4. Resonances, Cross Sections and Ringing; 5. Detection of Resonances; 6. Measurements with Full-Scale Objects; 7. R-Matrix Theory; 8. Model Function for Statistically Overlapping Resonances; 9. Conclusion; 10. Acknowledgements; 11. References; Chapter 9: Inverse Scattering Based on the Resonances of the Target; 1. Introduction and Historical Remarks; 2. Target Recognition; 3. Conclusion; 4. Acknowledgements; 5. References
Sommario/riassunto	The interaction of acoustic fields with submerged elastic structures, both by propagation and scattering, is being investigated at various institutions and laboratories world-wide with ever-increasing sophistication of experiments and analysis. This book offers a collection of contributions from these research centers that represent the present state-of-the-art in the study of acoustic elastic interaction, being on the cutting edge of these investigations. This includes the description of acoustic scattering from submerged elastic objects and shells by the Resonance Scattering Theory of Flax,