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Note generali

"... volume is intended to honor contributions of Professor Herbert Uberall to acoustics and wave propagation."--Pref.
"With a foreword by Hans A. Bethe."
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Nota di bibliografia

Includes bibliographical references and indexes.

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6. Nonlinear Plane Stationary Waves
7. Nonlinear Wave Beams; 8. Resonant Interaction of Elastic Waves in Nonlinearly-Elastic Solid with Microstructure; 9. Research Plans; 10. References; Chapter 3: Matched Field Processing: A Powerful Tool for the Study of Oceans and Scatterers; 1. Introduction; 2. Deep Ocean Tomography; 3. The Determination of Shallow Water Bottom Properties; 4. Targets; 5. Conclusions; 6. Acknowledgements; 7. References; Chapter 4: Progress in Underwater Acoustic Modeling; 1. Introduction; 2. Model Categories; 3. Applications; 4. Future Directions; 5. References
Chapter 5: Reflectivity Response of a Submerged Layer with Density Sound Velocity and Absorption Gradients
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7. The Non-Homogeneous Problem in the Cross-Section. Definition of the Generalized Solution
8. The Generalized Eigenfunctions of the Problem in the Cross-Section; 9. The Non-Homogeneous Problem in the Cross-Section; 10. The Abstract Differential Equation Formulation for the Non-Homogeneous Problem; 11. Fourier Method for the Wave Guide with Elastic Walls; 12. Critical Frequencies; 13. Conclusions; 14. References; Chapter 7: On Some General Mathematical Properties of the System Elastic Plate - Acoustic Medium; 1. BVCP in an Arbitrary Plane Domain
2. Boundary Value Contact Problem in an Infinite Domain
3. On the Uniqueness of a Solution of BVCP; 4. Optical Theorem for Acoustic Scattering; 5. Conclusion; 6. Acknowledgment; 7. References; Chapter 8: Acoustic Scattering from Finite Length Cylinders Encapped by Two Hemispheres; 1. Introduction; 2. Study of the Cylindrical Objects; 3. Study of the Spherical Objects; 4. Study of Objects Consisting of a Cylindrical Part Bounded by Two Hemispherical Endcaps; 5. Conclusion; 6. Acknowledgements; 7. References
Chapter 9: Acoustic Scattering from a Circular Cylindrical Shell Immersed in Water. Generation and Reradiation of Guided Waves

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,
