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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
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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,