



Marine Acoustics
The Physics of Sound in Underwater Environments
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Marine Acoustics is today's most complete and lucid text on the fundamentals of sonar engineering. Each facet of physics and engineering addressed in the text begins with a strong foundation of theory followed by applications-oriented examples of solutions that demonstrate the use of the theory just developed with the scope of its validity and the limitations of its solutions.

The text first addresses the physics theory of acoustic waves and how sound propagation is affected by the boundary conditions at the sea surface and the seabed; then, propagation modeling; acoustic projectors and receivers; sonar systems and signal processing; nonlinear (parametric) sources; reflection and scattering; behavior of sound in marine sediments and layered media; and finally, geoacoustic measurements.

The book provides several hundred illustrations supporting the text and a wealth of references that will assist the reader to further study. Indeed, *Marine Acoustics* will provide graduate and undergraduate students and their teachers, and engineers and technicians with an *unusually* complete source covering the wide gamut of sonar engineering.

The author, Dr. Jens M. Hovem, has taught introductory and advanced courses in marine acoustics at the Norwegian University of Science and Technology (NTNU) and has been a noted research scientist at the NATO Undersea Research Center, Applied Research Laboratories, the University of Texas at Austin, and SINTEF, the largest independent research organization in Scandinavia.