Studies Of Ocean Volume Reverberation At High Acoustic Frequencies

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U.S. Government Research & Development Reports - 1967

Underwater Acoustic Modeling and Simulation, Fourth Edition - Paul C. Etter 2013-02-21

Underwater Acoustic Modeling and Simulation, Fourth Edition continues to provide the most authoritative overview of currently available propagation, noise, reverberation, and sonar-performance models. This fourth edition of a

bestseller discusses the fundamental processes involved in simulating the performance of underwater acoustic systems and emphasizes the importance of applying the proper modeling resources to simulate the behavior of sound in virtual ocean environments. New to the Fourth Edition Extensive new material that addresses recent advances in inverse techniques and marine-mammal protection Problem sets in each chapter Updated and expanded inventories of available models Designed for readers with an understanding of underwater acoustics but who are unfamiliar with the various aspects of modeling, the book includes sufficient mathematical derivations to demonstrate model formulations and provides guidelines for selecting and using the models. Examples of each type of model illustrate model formulations, model assumptions, and algorithm efficiency. Simulation case studies are also included to demonstrate practical applications. Providing a thorough source of information on modeling resources, this book examines the translation of our physical understanding of sound in the sea into mathematical models that simulate acoustic propagation, noise, and reverberation in the ocean. The text shows how these models are used to predict and diagnose the performance of complex sonar systems operating in the undersea environment.

Grants and Awards for the Fiscal Year Ended ... - National Science Foundation (U.S.) 1982

Underwater Acoustic Modeling and Simulation - Paul C. Etter 2018-04-06

This newest edition adds new material to all chapters, especially in mathematical propagation models and special applications and inverse techniques. It has updated environmental-acoustic data in companion tables and core summary tables with the latest underwater acoustic propagation, noise, reverberation, and sonar performance models. Additionally

S. 881, the Small Business Innovation Research Act of 1981 - United States. Congress. Senate. Committee on Small Business. Subcommittee on Innovation and Technology 1981

Physics of Sound in the Sea - Research Analysis Group 1988

Contribution from the Scripps Institution of Oceanography - Scripps Institution of Oceanography 1968
Reprints from various publications.
Marine Science Affairs - 1969

Full Committee Consideration of H.R. 4326 ... - United States. Congress. House. Committee on Armed Services 1982

Science Abstracts - 1965

Technical Abstract Bulletin - 1967

Navy Research Task Summary - United States. Office of Naval Research

Government Reports Annual Index - 1992

Government Reports Announcements - 1971-06

Marine Research, Fiscal Year 1968 - National Council on Marine Resources and Engineering Development (U.S.) 1969

Sonar Studies of the Deep Scattering Layer in the North Pacific - W. E. Batzler 1953

Scientific and Technical Aerospace Reports - 1992

Underwater Acoustics - Richard P. Hodges 2011-06-28
Offering complete and comprehensive coverage of modern sonar spectrum system analysis, Underwater Acoustics: Analysis, Design and

Performance of Sonar provides a state-of-the-art introduction to the subject and has been carefully structured to offer a much-needed update to the classic text by Urick. Expanded to included computational approaches to the topic, this book treads the line between the highly theoretical and mathematical texts and the more populist, non-mathematical books that characterize the existing literature in the field. The author compares and contrasts different techniques for sonar design, analysis and performance prediction and includes key experimental and theoretical results, pointing the reader towards further detail with extensive references. Practitioners in the field of sonar design, analysis and performance prediction as well as graduate students and researchers will appreciate this new reference as an invaluable and timely contribution to the field. Chapters include the sonar equation, radiated, self and ambient noise, active sonar sources, transmission loss, reverberation, transducers, active target strength, statistical detection theory, false alarms, contacts and targets, variability and uncertainty, modelling detections and tactical decision aids, cumulative probability of detection, tracking target motion analysis and localization, and design and evaluation of sonars

Volume Reverberation in the Fram Strait Marginal Ice Zone - Marcia A. Wilson 1993

At frequencies between 3 and 50 kHz, high volume reverberation levels can have a limiting effect on active sonar operations. Therefore, experiments were conducted by the Naval Research Laboratory to determine the reverberation levels in the marginal ice zone. Three volume reverberation data sets were collected in May 1988 between Greenland and Spitsbergen in the Fram Strait. Data include frequencies from 3.5 to 50 kHz for downward-looking transducers and 3.5 to 12 kHz for an upward-looking configuration. Pulses of 10 and 40 ms in duration were used. Returning signals were processed to show depths and intensities of

volume scattering. Layer strengths and column strengths are shown as a function of frequency. Column strengths are compared to those from the Chukchi Sea marginal ice zone and from locations near Greenland and Iceland. Acoustics, Arctic, Physical oceanography

Naval Research Reviews - 1987

Ocean Acoustics Program - J. Michael McKisic 1981

History of Russian Underwater Acoustics - Oleg A. Godin 2008

This book describes, using first-person accounts, the history of the development in the Soviet Union and, later, in Russia of an extremely important technical field and how that history was influenced by WWI, WWII, and the Cold War, by government bureaucracy, in both positive and negative ways, by the economic collapse of the Soviet Union, and most importantly, by the dedicated efforts of vast numbers of individuals, including some of the greatest scientific minds of the 20th century. It will make fascinating reading for engineers and scientists who were engaged in similar work in the West, for historians of the Cold War and of the Soviet Union, and for present day researchers who need to learn about Russian scientific contributions.Because of its importance to national security, much of the research and development effort in underwater acoustics was classified during the Cold War, both in the Soviet Union and the United States. This book presents the first declassified accounts of the development of numerous hydroacoustic systems by individuals having first-hand knowledge of the development efforts.

Physics of Sound in the Sea: Reverberation, Reflection of sound from submarines and surface vessels - National Research Council (U.S.). Sonar Analysis Group 1968

Arctic Research of the United States - 1987

Marine Research, 1973 - United States. National Oceanic and Atmospheric Administration 1973

Marine Research - 1969

Underwater Acoustic Modeling and Simulation, Fifth Edition - Paul C. Etter 2018-03-15
This newest edition adds new material to all chapters, especially in mathematical propagation models and special applications and inverse techniques. It has updated environmental-acoustic data in companion tables and core summary tables with the latest underwater acoustic propagation, noise, reverberation, and sonar performance models. Additionally, the text discusses new applications including underwater acoustic networks and channel models, marine-hydrokinetic energy devices, and simulation of anthropogenic sound sources. It further includes instructive case studies to demonstrate applications in sonar simulation.

Marine Research - National Council on Marine Resources and Engineering Development (U.S.) 1969

A History of the Acoustics Division of the Naval Research Laboratory - Fred Tudor Erskine 2013

Physics of Sound in the Sea: Transmission - Research Analysis Group 1968

Ocean Reverberation - Dale D. Ellis 1993
Addresses emerging trends in ocean reverberation research. The availability of high-power, low-frequency sources and highly directional arrays has brought with it the tools, and the need, to study long-range reverberation.

A Survey Report on Basic Problems of Underwater Acoustics Research - National Research Council (U.S.). Committee on Undersea Warfare 1950

Physics of Sound in the Sea - Research Analysis Group 1969

Government Reports Announcements & Index - 1992

Hearing on H.R. 4326 ... Before the Research and Development Subcommittee of the Committee on Armed Services, House of Representatives, Ninety-seventh Congress, Second Session, March 10, 1982 - United States. Congress. House. Committee on Armed Services. Subcommittee on Research and Development 1982

Applied Mechanics Reviews - 1948

Dept. of the Navy - United States. Congress. Senate. Committee on Appropriations. Subcommittee on Department of Defense 1972

Marine Research - 1973

Annual Report - Scripps Institution of Oceanography 1987

Navy Research Task Summary, 1961 - United States. Office of Naval Research 1962