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SNAME Publications Releases Ship Structural Analysis and Design

Landmark Naval Architecture Text Updated by Award-winning Professor

About the Book:

Ship Structural Analysis and Design by Owen Hughes and Jeom Kee Paik

Originally written by Dr. Hughes as Ship Structural Design in 1983, the new book is the result of many years of effort by Professors Hughes and Paik, with significant contributions by four other leading experts from England, France and Germany. As in the original book, the underlying theory has been verified through extensive testing and implemented in MAESTRO, a leading ship structural design program.

For a structure as large and as complex as a ship there are three levels of structural design, the second and most central of which is the subject of this book. Rationally-based design is design from first principles using the tools of modern engineering science: computers and the methods of structural analysis and optimization which computers have made possible. Thus, the rationally-based approach is ideally suited for preliminary structural design, and it is this approach and this level of design that is the subject of this book.

Designing from first principles requires two separate and very extensive analyses: a response analysis to ascertain the true and complete response of the structure to all loads and load combinations, and a limit state analysis to ascertain all of the possible limit or failure values of these responses. Taken together these two analyses are by far the dominant part of rationally-based design.



Because of its coverage of the first principles and most important topics of ship structural analysis and design, this book will be very useful for university students who are engaged in either initial or advanced study in this field. The book will also be very useful to practicing engineers and engineers-in-training, and will contribute to their greater use of advanced and sophisticated technologies as well as existing and emerging practices.

About the Authors:

Dr. Owen Hughes, Professor of Ocean Structures in the Department of Aerospace and Ocean Engineering at Virginia Tech, was recently conferred the "Professor Emeritus" title by Virginia Tech, where he has taught since 1988. Dr. Hughes has written more than 60 technical articles, three monographs, and made other significant contributions in research on ocean structures engineering. Dr. Hughes received his bachelor's degree and master's degree from the Massachusetts Institute of Technology and a Ph.D. from the University of New South Wales (Australia).

Dr. Jeom Kee Paik is a Professor in the Department of Naval Architecture and Ocean Engineering of Pusan National University, Korea. His other published works include Ultimate Limit State Design of Steel-Plated Structures – John Wiley & Sons, UK; Ship-Shaped Offshore Installations: Design, Building and Operation – Cambridge University Press, UK; and Condition Assessment of Aged Structures – CRC Press, USA.

Other authors are: Dr. Dominique Béghin, Bureau Veritas, Paris (ret.); John B. Caldwell, Emeritus Professor, Univ. of Newcastle, UK; H. G. Payer, Germanischer Lloyd, Hamburg, Germany (ret) and Thomas E. Schellin, Germanischer Lloyd, Hamburg, Germany.

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