

Principles Of Naval Architecture Ship Resistance Flow

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Introduction to Naval Architecture - Thomas Charles Gillmer 1982-09-30

Sustainable Maritime Transportation and Exploitation of Sea Resources - Enrico Rizzuto 2011-09-20

Sustainable Maritime Transportation and Exploitation of Sea Resources covers the most updated aspects of maritime transports and of coastal and sea resources exploitation, with a focus on (but not limited to) the Mediterranean area. Vessels for transportation are analysed from the viewpoint of ship design in terms of hydrodynamic, structural and plant optimisation, as well as from the perspective of construction, maintenance, operation and logistics. The exploitation of marine and coastal resources is covered in terms of fishing, aquaculture and renewable energy production as well as of subsea resources extraction. The characterisation of the marine environment is seen under the twofold perspective of providing reference loads and conditions for the design of means for the resources exploitation, but also of setting limits to the design in order to preserve the natural ambient and minimise the impact of anthropogenic activities related to both transportation and

exploitation. Efficiency, reliability, safety and sustainability of sea- and Mediterranean-related human activities are the focus throughout the book. Sustainable Maritime Transportation and Exploitation of Sea Resources will be of interest to technical operators in the various areas involved (shipbuilding and ship-owner companies, research organisations, universities, certifying bodies), but will also serve as an updated reference work for government agencies and other institutional and educational bodies.

HSMV 2020 - E. Begovic 2020-11-03

This book presents the proceedings of the 12th International Symposium on High Speed Marine Vehicles, held virtually as an e-conference for the first time on 15 and 16 October 2020. High Speed Marine Vehicles Conference has almost 30-year history since the first Conference held in Naples in 1991. Since then, it has been an opportunity to present and discuss developments in the design, construction and operation of High Speed Marine Vessels. More than 40 abstracts were submitted for this edition of the conference, and following a rigorous review process, 26 papers were selected for inclusion in this book. These have been divided

into 7 sections: CFD/EFD/sea trials; hydrofoils; multi-hull hydrodynamics; planing-hull hydrodynamics; propulsion and ship machinery; second generation intact stability criteria; and structures, loads, strength and materials. Topics covered include updated aspects of and developments in ship design, numerical and experimental hydrodynamics, seakeeping and maneuvering, and marine structures and machinery. This publication will be of interest to researchers from academia, industry, government agencies and certifying authorities, as well as designers and operators of high-speed vessels.

Practical Ship Hydrodynamics - Volker Bertram 2011-08-11

Practical Ship Hydrodynamics provides a comprehensive overview of hydrodynamic experimental and numerical methods for ship resistance and propulsion, maneuvering, seakeeping and vibration. Beginning with an overview of problems and approaches, including the basics of modeling and full scale testing, expert author Volker Bertram introduces the marine applications of computational fluid dynamics and boundary element methods. Expanded and updated, this new edition includes: Otherwise disparate information on the factors affecting ship hydrodynamics, combined to provide one practical, go-to resource. Full coverage of new developments in computational methods and model testing techniques relating to marine design and development. New chapters on hydrodynamic aspects of ship vibrations and hydrodynamic options for fuel efficiency, and increased coverage of simple design estimates of hydrodynamic quantities such as resistance and wake fraction. With a strong focus on essential background for real-life modeling, this book is an ideal reference for practicing naval architects and graduate students.

Ship Resistance and Propulsion - Anthony F. Molland 2011-08-08

Ship Resistance and Propulsion provides a comprehensive approach to evaluating ship resistance and propulsion. Informed by applied research, including experimental and CFD techniques, this book provides guidance for the practical estimation of ship propulsive power for a range of ship types. Published standard series data for hull resistance and propeller performance enables practitioners to make ship power predictions based

on material and data contained within the book. Fully worked examples illustrate applications of the data and powering methodologies; these include cargo and container ships, tankers and bulk carriers, ferries, warships, patrol craft, work boats, planing craft and yachts. The book is aimed at a broad readership including practising naval architects and marine engineers, seagoing officers, small craft designers, undergraduate and postgraduate students. Also useful for those involved in transportation, transport efficiency and ecologistics who need to carry out reliable estimates of ship power requirements.

Strength of Ships and Ocean Structures - Alaa Mansour 2008-01-01

Fundamentals of Ship Hydrodynamics - Lothar Birk 2019-04-25

Fundamentals of Ship Hydrodynamics: Fluid Mechanics, Ship Resistance and Propulsion Lothar Birk, University of New Orleans, USA Bridging the information gap between fluid mechanics and ship hydrodynamics Fundamentals of Ship Hydrodynamics is designed as a textbook for undergraduate education in ship resistance and propulsion. The book provides connections between basic training in calculus and fluid mechanics and the application of hydrodynamics in daily ship design practice. Based on a foundation in fluid mechanics, the origin, use, and limitations of experimental and computational procedures for resistance and propulsion estimates are explained. The book is subdivided into sixty chapters, providing background material for individual lectures. The unabridged treatment of equations and the extensive use of figures and examples enable students to study details at their own pace. Key features: • Covers the range from basic fluid mechanics to applied ship hydrodynamics. • Subdivided into 60 succinct chapters. • In-depth coverage of material enables self-study. • Around 250 figures and tables. Fundamentals of Ship Hydrodynamics is essential reading for students and staff of naval architecture, ocean engineering, and applied physics. The book is also useful for practicing naval architects and engineers who wish to brush up on the basics, prepare for a licensing exam, or expand their knowledge.

Principles of Naval Architecture: Resistance, propulsion and vibration -

Edward V. Lewis 1988

Fundamentals of Ship Hydrodynamics - Lothar Birk 2019-04-25

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- Covers the range from basic fluid mechanics to applied ship hydrodynamics.
- Subdivided into 60 succinct chapters.
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- Around 250 figures and tables.

Fundamentals of Ship Hydrodynamics is essential reading for students and staff of naval architecture, ocean engineering, and applied physics. The book is also useful for practicing naval architects and engineers who wish to brush up on the basics, prepare for a licensing exam, or expand their knowledge.

The Geometry of Ships - John Seymour Letcher 2009

This volume of The principles of naval architecture series presents the principles and terminology underlying modern hull form modeling software. Next, it develops the fundamental hydrostatic properties of floating bodies starting from the integration of fluid pressure on the wetted surface. Following this, the numerical methods of performing these and related computations are presented. Such modeling software normally includes, in addition to the hull definition function, appropriate routines for the computation of hydrostatics, stability, and other properties. It may form a part of a comprehensive computer-based

design and manufacturing system and may also be included in shipboard systems that perform operational functions such as cargo load monitoring and damage control. [Source : éditeur].

Basic Ship Propulsion - J. P. Ghose 2004

A Manual of Naval Architecture - Sir William Henry White 1882

Sustainable Shipping - Harilaos N. Psaraftis 2019-02-11

International shipping is currently at a crossroads. The decision of the International Maritime Organization (IMO) in April 2018 to adopt an Initial Strategy so as to achieve by 2050 a reduction of at least 50% in maritime greenhouse gas (GHG) emissions vis-à-vis 2008 levels epitomizes the last among a series of recent developments as regards sustainable shipping. It also sets the scene on what may happen in the future. Even though many experts and industry circles believe that the IMO decision is in line with the COP21 climate change agreement in Paris in 2015, others disagree, either on the ground that the target is not ambitious enough, or on the ground that no clear pathway to reach the target is currently visible. This book takes a cross-disciplinary view of the various dimensions of the maritime transportation sustainability problem. “Cross-disciplinary” means that a variety of angles are used to examine the book topics, and these mainly include the technological angle, the economics angle, the logistics angle, and the environmental angle. The book reviews models that can be used to evaluate decisions, policy alternatives and trade-offs. For sustainable shipping, a spectrum of technical, logistics-based and market based measures are being contemplated. All may have important side-effects as regards the economics and logistics of the maritime supply chain, including ports and hinterland connections. The objective to attain an acceptable environmental performance, while at the same time respecting traditional economic performance criteria so that shipping remains viable, is and is likely to be a central goal for both industry and policy-makers in the years ahead. At the same time, policy fragmentation is likely to create distortions of competition and sub-optimal solutions. This

book attempts to address these issues and identify better solutions. Sustainable Shipping: A Cross-Disciplinary View includes chapters that cover many relevant topics. These include a general view of maritime transport sustainability, green ship technologies, information and communication technologies (ICTs) for sustainable shipping, green tramp ship routing and scheduling, green liner network design and speed optimization. Market based measures, oil pollution, ship recycling, sulphur emissions, ballast water management, alternative fuels and green ports are also covered. The book concludes by discussing prospects for the future, with a focus on the IMO Initial Strategy. "This book contains a unique wealth of information on sustainable shipping. The knowledge it provides is rigorous, complete, and well supported by statistics, technical reports, and scientific references. The treatment of the various topics is not only informative but also analytical and critical." —Gilbert Laporte, Maritime Economics & Logistics (12 May, 2020)

Propulsion - Justin Elliot Kerwin 2010

This book presents a comprehensive and up-to-date treatment of propeller analysis and design, including beginning with an introduction to various types of marine propulsion machinery, definitions of powers and efficiencies, and two- and three-dimensional airfoil theory. A section on three-dimensional hydrofoil theory introduces wake vortex sheets and three-dimensional vortex lines. These discussions topics are followed by linear lifting line- and lifting surface theory with both exact and approximate solution methods-including properties of helicoidal vortex sheets, optimum and arbitrary circulation distributions, and the Lerbs induction factor method. There are sections on model testing of propellers, propeller strength and followed by selection and design using both standard series charts and by circulation theory. The final section discusses ship standardization trials, their purpose, measurement methods and instruments, concluding with the analysis of trial data and derivation of the model-ship correlation allowance.

Design Principles of Ships and Marine Structures - Suresh Chandra Misra 2015-12-01

The Definitive Reference for Designers and Design Students A solid

grasp of the fundamentals of materials, along with a thorough understanding of load and design techniques, provides the components needed to complete a marine platform design. Design Principles of Ships and Marine Structures details every facet of ship design and design integration, and highlights the design aspects that must be put together to create an integrated whole product. This book discusses naval architecture and marine engineering applications and principles relevant to the design of various systems, examines advanced numerical techniques that can be applied to maritime design procedure at the concept design stage, and offers a comprehensive approach to the subject of ship design. Covers the Entire Sphere of Marine Design The book begins with an introduction to marine design and the marine environment, describing many of the marine products that are used for transportation, defense and the exploitation of marine resources. It also discusses stability issues relevant to ship design, as well as hydrodynamic aspects of resistance, propulsion, sea keeping and maneuvering, and their effects on design. In addition to covering the various systems and sub-systems that go into making a complex product to be used in maritime environment, the author explains engineering economics and its application in ship design, and provides examples wherever necessary. Written by an author with more than 35 years of teaching experience, this book: Describes various design methodologies such as sequential design process with the application of concurrent engineering and set based design factors in the use of computer-aided design techniques Highlights the shape design methodology of ship forms and layout design principles Considers design aspects relative to safety and risk assessment Introduces the design for production aspects in marine product development Discusses design principles for sustainability Explains the principles of numerical optimization for decision-making Design Principles of Ships and Marine Structures focuses on ship design efficiency, safety, sustainability, production, and management, and appeals to students and design professionals in the field of shipping, shipbuilding and offshore engineering.

Marine Hydrodynamics, 40th anniversary edition - J. N. Newman

2018-01-26

A textbook that offers a unified treatment of the applications of hydrodynamics to marine problems. The applications of hydrodynamics to naval architecture and marine engineering expanded dramatically in the 1960s and 1970s. This classic textbook, originally published in 1977, filled the need for a single volume on the applications of hydrodynamics to marine problems. The book is solidly based on fundamentals, but it also guides the student to an understanding of engineering applications through its consideration of realistic configurations. The book takes a balanced approach between theory and empirics, providing the necessary theoretical background for an intelligent evaluation and application of empirical procedures. It also serves as an introduction to more specialized research methods. It unifies the seemingly diverse problems of marine hydrodynamics by examining them not as separate problems but as related applications of the general field of hydrodynamics. The book evolved from a first-year graduate course in MIT's Department of Ocean Engineering. A knowledge of advanced calculus is assumed. Students will find a previous introductory course in fluid dynamics helpful, but the book presents the necessary fundamentals in a self-contained manner. The 40th anniversary of this pioneering book offers a foreword by John Grue. Contents Model Testing • The Motion of a Viscous Fluid • The Motion of an Ideal Fluid • Lifting Surfaces • Waves and Wave Effects • Hydrodynamics of Slender Bodies

Naval Architecture for Marine Engineers - W. Muckle 2013-10-22

Naval Architecture for Marine Engineers focuses on resistance, propulsion, and vibration aspects of ships. The book first discusses the functions, layouts, and types of ships and terms used. The text looks at classification societies and governmental authorities influential on the design, construction, and safety of ships. Lloyd's Register of Shipping; governmental authorities; and Inter-governmental Maritime Consultative Organization (IMCO) are noted. The book also highlights ship calculations, including trapezoidal rule, Simpson's rule, and other rules for calculation. The text discusses as well the buoyancy, stability, and trim. Conditions for equilibrium of body floating in still water; calculation

of underwater volume; stability at large angle of inclination; and flooding and damaged stability are considered. The selection also underscores structural strength of ships. Static forces on a ship in still water; dynamic longitudinal strength problem; resistance of ship to buckling; and materials used in ships are noted. The text also looks at resistance, powering, vibration, and propulsion of ships. The book is a vital source of data for readers interested in naval architecture.

Ship Design - Apostolos Papanikolaou 2014-09-16

This book deals with ship design and in particular with methodologies of the preliminary design of ships. The book is complemented by a basic bibliography and five appendices with useful updated charts for the selection of the main dimensions and other basic characteristics of different types of ships (Appendix A), the determination of hull form from the data of systematic hull form series (Appendix B), the detailed description of the relational method for the preliminary estimation of ship weights (Appendix C), a brief review of the historical evolution of shipbuilding science and technology from the prehistoric era to date (Appendix D) and finally a historical review of regulatory developments of ship's damage stability to date (Appendix E). The book can be used as textbook for ship design courses or as additional reading for university or college students of naval architecture courses and related disciplines; it may also serve as a reference book for naval architects, practicing engineers of related disciplines and ship officers, who like to enter the ship design field systematically or to use practical methodologies for the estimation of ship's main dimensions and of other ship main properties and elements of ship design.

The Maritime Engineering Reference Book - Anthony F. Molland 2011-10-13

The Maritime Engineering Reference Book is a one-stop source for engineers involved in marine engineering and naval architecture. In this essential reference, Anthony F. Molland has brought together the work of a number of the world's leading writers in the field to create an inclusive volume for a wide audience of marine engineers, naval architects and those involved in marine operations, insurance and other

related fields. Coverage ranges from the basics to more advanced topics in ship design, construction and operation. All the key areas are covered, including ship flotation and stability, ship structures, propulsion, seakeeping and maneuvering. The marine environment and maritime safety are explored as well as new technologies, such as computer aided ship design and remotely operated vehicles (ROVs). Facts, figures and data from world-leading experts makes this an invaluable ready-reference for those involved in the field of maritime engineering.

Professor A.F. Molland, BSc, MSc, PhD, CEng, FRINA. is Emeritus Professor of Ship Design at the University of Southampton, UK. He has lectured ship design and operation for many years. He has carried out extensive research and published widely on ship design and various aspects of ship hydrodynamics. * A comprehensive overview from best-selling authors including Bryan Barrass, Rawson and Tupper, and David Eyres * Covers basic and advanced material on marine engineering and Naval Architecture topics * Have key facts, figures and data to hand in one complete reference book

MARINE 2011, IV International Conference on Computational Methods in Marine Engineering - Luís Eça 2013-03-19

This book contains selected papers from the Fourth International Conference on Computational Methods in Marine Engineering, held at Instituto Superior Técnico, Technical University of Lisbon, Portugal in September 2011. Nowadays, computational methods are an essential tool of engineering, which includes a major field of interest in marine applications, such as the maritime and offshore industries and engineering challenges related to the marine environment and renewable energies. The 2011 Conference included 8 invited plenary lectures and 86 presentations distributed through 10 thematic sessions that covered many of the most relevant topics of marine engineering today. This book contains 16 selected papers from the Conference that cover "CFD for Offshore Applications", "Fluid-Structure Interaction", "Isogeometric Methods for Marine Engineering", "Marine/Offshore Renewable Energy", "Maneuvering and Seakeeping", "Propulsion and Cavitation" and "Ship Hydrodynamics". The papers were selected with

the help of the recognized experts that collaborated in the organization of the thematic sessions of the Conference, which guarantees the high quality of the papers included in this book.

Submarine Hydrodynamics - Martin Renilson 2018-04-20

This book covers specific aspects of submarine hydrodynamics in a very practical manner. The author reviews basic concepts of ship hydrodynamics and goes on to show how they are applied to submarines, including a look at the use of physical model experiments. The book is intended for professionals working in submarine hydrodynamics, as well as for advanced students in the field. This revised edition includes updated information on empirical methods for predicting the hydrodynamic manoeuvring coefficients, and for predicting the resistance of a submarine. It also includes new material on how to assess propulsors, and includes measures of wake distortion, which has a detrimental influence on propulsor performance. Additional information on safe manoeuvring envelopes is also provided. The wide range of references has been updated to include the latest material in the field.

Resistance and Propulsion of Ships - Sv. Aa. Harvald 1983

Deals with the prediction of speed and power in ships -- an important part of ship design. Describes the techniques used in ship model experiments as well as different types of experimental facilities. Considers different methods of estimating or determining speed and power. Questions regarding wake, thrust deduction, cavitation, and propeller design are covered. Correlates the interaction between ship, machinery, and propeller. Includes a thorough exposition of shipyards' and shipowners' needs for model testing. Extensive drawings and diagrams highlight the text.

Advanced Maritime Technologies and Applications - Azman Ismail 2022

This book presents the outcomes from the 2nd International Conference on Marine and Advanced Technologies 2021 (Icmat2021) which was organized by the Research and Innovation section, University Kuala Lumpur - Malaysian Institute of Marine Engineering Technology. The theme Propelling to the Innovative Idea highlights prominence of recent

developments in marine and advanced technologies in the field of marine application, maritime operation, energy and reliability, advanced materials and applied science. This online conference provided a platform for presentations and discussions at the local and international level between educationists, researchers, students, and industrialists. Furthermore, it created opportunities to establish networks and meet experts in addition to exchange of up-to-date knowledge in the field. This book is the up-to-date reference, especially to those who want to learn and explore more about the latest developments and technologies of maritime industries.

Principles of Yacht Design - Lars Larsson 2022-03-17

Principles of Yacht Design has established itself as the standard book on the subject for practising designers, naval architecture students, discerning boat owners as well as the boatbuilding industry as a whole. The fifth edition is completely revised and expanded. It examines every aspect of the process of yacht and powerboat design. The new edition includes new findings from recent research in aero and hydrodynamics, as well as covering the most recent changes to building standards. The authors have used a newly built 41-foot performance cruiser to demonstrate the practical application of yacht design theory. This new edition includes photos of the building process and detailed explanations.

Engineering Applications for New Materials and Technologies -

Andreas Öchsner 2018-01-25

This book discusses the expertise, skills, and techniques needed for the development of new materials and technologies. It focuses on finite element and finite volume methods that are used for engineering simulations, and present many state-of-the-art applications and advances to highlight these methods' importance. For example, modern joining technologies can be used to fabricate new compound or composite materials, even those formed from dissimilar component materials. These composite materials are often exposed to harsh environments, must deliver specific characteristics, and are primarily used in automotive and marine technologies, i.e., ships, amphibious vehicles, docks, offshore structures, and even robots. To achieve the desired material

performance, computer-based engineering tools are widely used for simulation, data evaluation, and design processes.

Ship Resistance and Propulsion - Anthony F. Molland 2017-08-17

This second edition provides a comprehensive and scientific approach to evaluating ship resistance and propulsion. Written by experts in the field, it includes the latest developments in CFD, experimental techniques and guidance for the practical estimation of ship propulsive power. It addresses improvements in energy efficiency and reduced emissions, and the introduction of the Energy Efficiency Design Index (EEDI). Descriptions have now been included of pump jets, rim driven propulsors, shape adaptive foils, propeller noise and dynamic positioning. Trial procedures have been updated, and preliminary estimates of power for hydrofoil craft, submarines and AUVs are incorporated. Standard series data for hull resistance and propeller performance are included, enabling practitioners to make ship power predictions based on material and data within the book. Numerous fully worked examples illustrate applications for most ship and small craft types, making this book ideal for practising engineers, naval architects, marine engineers and undergraduate and postgraduate students.

Introduction to Naval Architecture - E. C. Tupper 1996

From the co-author of Basic Ship Theory, this is a fully re-organised and rewritten successor to the well-known Muckle's Naval Architecture.

Twenty-First Symposium on Naval Hydrodynamics - National Research Council 1997-09-11

Practical Design of Ships and Other Floating Structures - Tetsuo Okada 2020-10-05

This book gathers the peer-reviewed proceedings of the 14th International Symposium, PRADS 2019, held in Yokohama, Japan, in September 2019. It brings together naval architects, engineers, academic researchers and professionals who are involved in ships and other floating structures to share the latest research advances in the field. The contents cover a broad range of topics, including design synthesis for ships and floating systems, production, hydrodynamics, and

structures and materials. Reflecting the latest advances, the book will be of interest to researchers and practitioners alike.

Computational Ship Design - Myung-Il Roh 2017-09-29

This book offers an introduction to the fundamental principles and systematic methodologies employed in computational approaches to ship design. It takes a detailed approach to the description of the problem definition, related theories, mathematical formulation, algorithm selection, and other core design information. Over eight chapters and appendices the book covers the complete process of ship design, from a detailed description of design theories through to cutting-edge applications. Following an introduction to relevant terminology, the first chapters consider ship design equations and models, freeboard calculations, resistance prediction and power estimation. Subsequent chapters cover topics including propeller design, engine selection, hull form design, structural design and outfitting. The book concludes with two chapters considering operating design and economic factors including construction costs and fuel consumption. The book reflects first-hand experiences in ship design and R&D activities, and incorporates improvements based on feedback received from many industry experts. Examples provided are based on genuine case studies in the field. The comprehensive description of each design stage presented in this book offers guidelines for academics, researchers, students, and industrial manufacturers from diverse fields, including ocean engineering and mechanical engineering. From a commercial point of view the book will be of great value to those involved in designing a new vessel or improving an existing ship.

Marine Rudders and Control Surfaces - Anthony F. Molland 2011-02-24

Marine Rudders and Control Surfaces guides naval architects from the first principles of the physics of control surface operation, to the use of experimental and empirical data and applied computational fluid dynamic modelling of rudders and control surfaces. The empirical and theoretical methods applied to control surface design are described in depth and their use explained through application to particular cases. The design procedures are complemented with a number of worked

practical examples of rudder and control surface design. • The only text dedicated to marine control surface design • Provides experimental, theoretical and applied design information valuable for practising engineers, designers and students • Accompanied by an online extensive experimental database together with software for theoretical predictions and design development

Basic Naval Architecture - Philip A. Wilson 2018-02-09

This textbook provides readers with an understanding of the basics of ship stability as it has been enacted in international law. The assessment of ship stability has evolved considerably since the first SOLAS convention after the sinking of the RMS Titanic, and this book enables readers to familiarise themselves with the most up-to-date modern day methodology, as well as looking ahead to the effects on ship design over the next fifty years. The author not only explains the methodology of probabilistic ship damage as required by the International Maritime Organisation (IMO), but also details the new requirements to assess certain sizes and classes of ships to the seven second-generation ship stability requirements. Many textbooks that are currently used by undergraduates focus on the geometric-centric deterministic approach to the assessment of ship stability, whereas this book also includes material on the classes of ships that are now required to have probabilistic ship damage assessment, as has only recently been agreed by the IMO. Basic Naval Architecture: Ship Stability contains up-to-date information, making it ideal for university students studying ocean or marine engineering, as well as being of interest to students on naval architecture and ship science courses. Highly illustrated and including chapter studies for ease of learning, the book is an ideal one-volume textbook for students.

Advances on Mechanics, Design Engineering and Manufacturing - Benoit Eynard 2016-09-02

This book gathers papers presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2016), held on 14-16 September, 2016, in Catania, Italy. It reports on cutting-edge topics in product design and manufacturing, such as

industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is divided into eight main sections, reflecting the focus and primary themes of the conference. The contributions presented here will not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed, and future interdisciplinary collaborations.

Twenty-Third Symposium on Naval Hydrodynamics - National Research Council 2002-01-01

"Vive la Revolution!" was the theme of the Twenty-Third Symposium on Naval Hydrodynamics held in Val de Reuil, France, from September 17-22, 2000 as more than 140 experts in ship design, construction, and operation came together to exchange naval research developments. The forum encouraged both formal and informal discussion of presented papers, and the occasion provides an opportunity for direct communication between international peers. This book includes sixty-three papers presented at the symposium which was organized jointly by the Office of Naval Research, the National Research Council (Naval Studies Board), and the Bassin d'Essais des Carènes. This book includes the ten topical areas discussed at the symposium: wave-induced motions and loads, hydrodynamics in ship design, propulsor hydrodynamics and hydroacoustics, CFD validation, viscous ship hydrodynamics, cavitation and bubbly flow, wave hydrodynamics, wake dynamics, shallow water hydrodynamics, and fluid dynamics in the naval context.

Introduction to Naval Architecture - E. C. Tupper 2013-01-09

Written by an award-winning naval architecture author and former vice-president of the Royal Institution of Naval Architects (RINA), the fifth edition of Introduction to Naval Architecture has been fully updated to take in advances in the field and is ideal both for those approaching the

subject for the first time and those looking to update or refresh their knowledge on areas outside of their direct expertise. This book provides a broad appreciation of the science and art of naval architecture, explaining the subject in physical rather than in mathematical terms. While covering basic principles, such as hull geometry, propulsion, and stability, the book also addresses contemporary topics, such as computer aided design and computer aided manufacture (CAD/CAM). The new edition reflects the continuing developments in technology, changes in international regulations and recent research. Knowledge of the fundamentals of naval architecture is essential not only for newcomers to the field but also the wealth of non-naval architects working in the marine area, including marine engineers, marine surveyors and ship crews. This book provides the most well-known and trusted introduction to the topic, offering a clear and concise take on the basics of this broad field. Praise for previous edition "...a clear and concise introduction to the subject, giving a good grasp of the basics of naval architecture." — Maritime Journal "...my go-to book for understanding the general principles of naval architecture. The book is well-written and easy to understand." — Amazon.com reviewer Provides a perfect introduction to naval architecture for newcomers to the field and a compact overview for related marine professionals needing a working knowledge of the area Updated to cover key developments including double-hulled tankers and the increased use of computational methods and modeling in ship design Draws on the experience of renowned naval architecture author Eric Tupper to provide extensive scope and authoritative detail, all in an accessible and approachable style

Principles of Naval Architecture - John Paul Comstock 1967

Reeds Vol 4: Naval Architecture for Marine Engineers - Richard Pemberton 2018-10-18

This textbook covers the theoretical, fundamental aspects of naval architecture for students preparing for the Class 2 and Class 1 Marine Engineer Officer exams. It introduces the basic foundation themes within naval architecture, (hydrostatics, stability, resistance and powering),

using worked examples to show how solutions should be presented for an exam. The topics are ordered in a manner of a typical taught module, to aid the use of the book by lecturers as a compliment to a course.

Importantly, this updated edition contains updated text and figures in line with modern practice, including an update of many of the figures to three-dimensional diagrams, and a new section on computer software for naval architecture. The book also includes sample examination questions with worked examples answers to aid students in their learning.

Practical Ship Design - D.G.M. Watson 2002-02-22

The ever-growing demand for commercial activities at sea has meant that ships are rapidly developing and that the rules governing their construction and operation are changing. Practical Ship Design records these changes, their outcomes and the reasoning behind them. It deals with every aspect of ship design and handles a wide range of both merchant ships and naval ships with authority. It provides coverage of cargo ships and passenger ships, tugs, dredgers and other service craft. It also includes concept design, detail design, structural design, hydrodynamics design, the effect of regulations, the preparation of specifications and matters of costs and economics. Drawing on the author's extensive practical experience, Practical Ship Design is likely to interest everybody involved in the design, construction, repair and operation of ships. Students and the most experienced professionals will all benefit from the book's vast store of design data and its conclusions

and recommendations.

Twenty-Second Symposium on Naval Hydrodynamics - National Research Council 2000-03-02

The Twenty-Second Symposium on Naval Hydrodynamics was held in Washington, D.C., from August 9-14, 1998. It coincided with the 100th anniversary of the David Taylor Model Basin. This international symposium was organized jointly by the Office of Naval Research (Mechanics and Energy Conversion S&T Division), the National Research Council (Naval Studies Board), and the Naval Surface Warfare Center, Carderock Division (David Taylor Model Basin). This biennial symposium promotes the technical exchange of naval research developments of common interest to all the countries of the world. The forum encourages both formal and informal discussion of the presented papers, and the occasion provides an opportunity for direct communication between international peers.

Ship Resistance and Flow - Lars Larsson 2010

This volume contains a completely new presentation of the subject of ship resistance embodying these developments. A major goal in the design of virtually all vessels is to obtain a hull form having low resistance. In achieving this goal, the accurate prediction of resistance for a given hull geometry is essential. Since the publication of the previous edition of PNA important advances have been made in theoretical and computational fluid dynamics accompanied by increased use of such work in ship and offshore structure design.