Read free Assessment of electric power quality in ship systems fitted with converter subsystems advances of electrical drives and power electronics (Read Only)

the development of modern measurement methods for ship systems results from economic changes and increasingly stringent environmental requirements additionally the specificity of ship systems and the conditions in which they work lead to very restrictive requirements for the reliability and accuracy of measuring systems on ships and offshore facilities this collection presents the results of research related to the development of modern systems on ships and offshore facilities with a particular focus on the measurement and assessment of processes occurring in ship propulsion systems ship navigation systems maritime communications maritime safety and alarm systems marine cargo handling equipment offshore technological systems etc this book addresses all types of sensors and measurement systems designed for ships and offshore facilities information is always required by organizations of coastal states about the movements identities and intentions of vessels sailing in the waters of interest to them which may be coastal waters straits inland waterways rivers lakes or open seas this interest may stem from defense requirements or from needs for the protection of off shore resources enhanced search and rescue services deterrence of smuggling drug trafficking and other illegal activities and or for providing vessel traffic services for safe and efficient navigation and protection of the environment to meet these needs it is necessary to have a well designed maritime surveillance and control system capable of tracking ships and providing other types of information required by a variety of user groups ranging from port authorities shipping companies marine exchanges to governments and the military principles of integrated maritime surveillance systems will be of vital interest to anyone responsible for the design implementation or provision of a well designed maritime surveillance and control system capable of tracking ships and providing navigational and other types of information required for safe navigation and efficient commercial operation principles of integrated maritime surveillance systems is therefore essential to a

variety of user groups ranging from port authorities to shipping companies and marine exchanges as well as civil governments and the military this technical book presents in a concise and concentrated form all the essential aspects of operating a ship these include the basics of buoyancy and propulsion technology ship safety occupational safety and environmental protection on board as well as important auxiliary equipment these aspects are explained in more detail using numerous examples the book is intended for ship s engineers at university on board and in shipping companies as well as for design engineers in the shipyard this book is a translation of the original german 1st edition schiffsbetriebstechnik by manfred pfaff published by springer fachmedien wiesbaden gmbh part of springer nature in 2018 the translation was done with the help of artificial intelligence machine translation by the service deepl com a subsequent human revision was done primarily in terms of content so that the book will read stylistically differently from a conventional translation springer nature works continuously to further the development of tools for the production of books and on the related technologies to support the authors written by experts in the ship design field this book provides a comprehensive approach to evaluating ship resistance and propulsion introduction to ship engine room systems outlines the key systems machinery and equipment found in a ship s engine room it explores the basics of their function with overall practical guidance for engine room operation and maintenance recognising emerging environmental challenges it covers the following topics the role and function of the steering and propulsion systems power generation the heating ventilation and air conditioning systems the water management system engine room fires and emergency response systems engine room watch procedures and checklists the book serves as an accessible introductory text for engineering students at hnc hnd and foundation degree level marine engineering cadets and non engineering marine professionals such as deck officers and cadets who want a general guide to how the engine room functions u s oceangoing vessels have half the crew size of 30 years ago thanks to automation and mechanization in the shipping industry but are reductions in crew size increasing the risk of vessel accidents crew size and maritime safety explores how we can minimize risk without hindering technology presenting the most thorough analysis available of key issues such as domestic versus foreign manning practices and safety performance effect of crew size on crew fatigue level of training and ship maintenance and modernizing the u s coast guard approach to crew size regulation the volume features a trend analysis of 20 years of maritime safety data analyzing u s and international laws and treaties concerning ship manning and making recommendations for improvements in addition it includes a model for setting optimum crew levels

based on systems engineering and tested with actual ships sustainable energy systems on ships is a comprehensive technical reference for all aspects of energy efficient shipping the book discusses the technology options to make shipping energy consumption greener focusing on the smarter integration of energy streams the introduction of renewable resources and the improvement of control and operability chapters not only describe each technology individually but also analyze their interconnections when implemented onboard and compare them in terms of suitability for different vessels and economic viability readers of sustainable energy systems on ships will find an invaluable reference suitable for researchers professionals and managers involved in the shipping industry and those working on related energy efficiency technologies fuel cells and in the transport industry generally students of maritime engineering will also be well served by this reference clear analysis of the current implementation status of each technology discussed the barriers for further development and the potential for large scale implementation enables decision making on the most suitable technologies for each type of vessel integrates energy efficiency and emission control rules regulations technologies including data science and challenges in relation to the shipping industry includes industry case studies on the integration of novel energy conversion technologies and renewable energy sources in operating ships this book introduces a holistic approach to ship design and its optimisation for life cycle operation it deals with the scientific background of the adopted approach and the associated synthesis model which follows modern computer aided engineering cae procedures it integrates techno economic databases calculation and multi objective optimisation modules and s w tools with a well established computer aided design cad platform along with a virtual vessel framework vvf which will allow virtual testing before the building phase of a new vessel the resulting graphic user interface gui and information exchange systems enable the exploration of the huge design space to a much larger extent and in less time than is currently possible thus leading to new insights and promising new design alternatives the book not only covers the various stages of the design of the main ship system but also addresses relevant major onboard systems components in terms of life cycle performance to offer readers a better understanding of suitable outfitting details which is a key aspect when it comes the outfitting intensive products of international shipyards the book disseminates results of the eu funded horizon 2020 project holiship traditionally society has regulated hazardous industries by detailed references to engineering codes standards and hardware requirements these days a risk based approach is adopted risk analysis involves identifying hazards categorizing the risks and providing the necessary decision support to

determine the necessary arrangements and measures to reach a safe yet economical operating level when adopting such an approach the abundance of techniques available to express risk levels can often prove confusing and inadequate this highly practical guide to safety and risk analysis in marine systems not only adds to the current techniques available but more importantly identifies instances where traditional techniques fall short uncertainties that manifest within risk analysis are highlighted and alternative solutions presented in addition to risk analysis techniques this book addresses influencing elements including reliability maintenance decision making and human error the highly practical approach of this title ensures it is accessible to the widest possible audience the only book that covers fundamental shipboard design and verification concepts from individual devices to the system level shipboard electrical system design and development requirements are fundamentally different from utility based power generation and distribution requirements electrical engineers who are engaged in shipbuilding must understand various design elements to build both safe and energy efficient power distribution systems this book covers all the relevant technologies and regulations for building shipboard power systems which include commercial ships naval ships offshore floating platforms and offshore support vessels in recent years offshore floating platforms have been frequently discussed in exploring deep water resources such as oil gas and wind energy this book presents step by step shipboard electrical system design and verification fundamentals and provides information on individual electrical devices and practical design examples along with ample illustrations to back them in addition shipboard power systems design and verification fundamentals presents real world examples and supporting drawings for shipboard electrical system design includes comprehensive coverage of domestic and international rules and regulations e g ieee 45 ieee 1580 covers advanced devices such as vfd variable frequency drive in detail this book is an important read for all electrical system engineers working for shipbuilders and shipbuilding subcontractors as well as for power engineers in general maritime navigation has rapidly developed since the publication of the last edition of the title with methods of global position fixing for shipping becoming standardized as in the previous two editions this edition will provide a sound basis for the understanding of modern navigation systems and brings the student or professional up to date with the latest developments in technology and the growing standardization of maritime navigation techniques developed with close scrutiny from the us merchant marine academy and the major maritime navigation centres in the uk out dated techniques have been replaced by an expanded section on the now standard navstar gps systems and the

integrated nav in addition a new chapter on the application of electronic charts will also be included as well as problems at the end of each chapter with worked solutions ship and mobile offshore unit automation a practical guide a practical guide gives engineers a much needed reference on relevant standards and codes along with practical case studies on how to use these standards on actual projects and plans packed with the critical procedures necessary for each phase of the project the book also gives an outlook on trends of development for control and monitoring systems including usage of artificial intelligence in software development and prospects for the use of autonomous vessels rounding out with a glossary and introductory chapter specific to the new marine engineer just starting this book delivers a source of valuable information to help offshore engineers be better prepared to safely and efficiently design today s offshore unit control systems helps readers understand the worldwide offshore unit regulations necessary for monitoring systems and automation installation including iso iec ieee imo solas and modu abs dnvgl api nma and norsok presents real world examples that apply standards provides tactics on how to procure control and monitoring systems specific to the offshore industry marine navigation interfaces data processing navigation water transport engineering radio equipment communication equipment radionavigation digital signals ships marine navigation interfaces data processing navigation water transport engineering radio equipment communication equipment radionavigation digital signals ships open systems interconnection transport layer osi most ocean vessels are underactuated but control of their motion in the real ocean environment is essential starting with a review of the background on ocean vessel dynamics and nonlinear control theory the authors systematic approach is based on various nontrivial coordinate transformations coupled with advanced nonlinear control design methods this strategy is then used for the development and analysis of a number of ocean vessel control systems with the aim of achieving advanced motion control tasks including stabilization trajectory tracking path tracking and path following control of ships and underwater vehicles offers the reader new results in the nonlinear control of underactuated ocean vessels efficient designs for the implementation of controllers on underactuated ocean vessels numerical simulations and real time implementations of the control systems designed on a scale model ship for each controller developed to illustrate their effectiveness and afford practical guidance the harmful effects of anti fouling systems were considered by the international maritime organization s marine environment protection committee mepc for the first time in 1988 when the paris commission requested the mepc to consider the need for measures to restrict the use of tributyltin tbt compounds on seagoing vessels as a first step

the committee at its thirtieth session in 1990 adopted resolution mepc 46 30 on measures to control potential adverse impacts associated with the use of tributyltin compounds in anti fouling paints which recommends that imo member governments adopt measures to eliminate the use of anti fouling paint containing tbt on non aluminium hulled vessels of less than 25 m in length and eliminate the use of tbt based anti fouling paints with an average leaching rate of more than four micrograms of organotin per square centimetre per day these recommendations were intended to be interim measures until imo could consider a possible total prohibition of tbt compounds in anti fouling systems from 1990 onwards mepc was presented with tbt monitoring results which reconfirmed the toxicity of tbt compounds as well as with information on existing alternatives including their effectiveness and the risk posed to the marine environment by these systems this 2005 edition reproduces the texts of the international convention on the control of harmful anti fouling systems on ships 2001 the four conference resolutions and the guidelines developed and adopted by the organization in an effort to contribute to global efforts by addressing the marine pollution from various emission types this special issue of ship lifecyle for journal of marine science and engineering was inspired to provide a comprehensive insight for naval architects marine engineers designers shipyards and ship owners who strive to find optimal ways to survive in competitive markets by improving cycle time and the capacity to reduce design production and operation costs while pursuing zero emission in this context this special issue is devoted to providing insights into the latest research and technical developments on ship systems and operation with a life cycle point of view the goal of this special issue is to bring together researchers from the whole marine and maritime community into a common forum to share cutting edge research on cleaner shipping it is strongly believed that such a joint effort will contribute to enhancing the sustainability of the marine and maritime activities this special issue features six novel publications dedicated to this endeavor first of all as a proactive response to transitioning to cleaner marine fuel sources numerous aspects of the excellence of fuel cell based hybrid ships were demonstrated through four publications in addition two publications demonstrated the effectiveness of life cycle assessment lca applicable to marine vessels assesses the state of the art in automatic identification system ais display technologies evaluates system designs and capabilities and reviews the human factors aspects associated with operating these systems introduction to marine engineering discusses machineries and related equipment in ships the book first gives an introduction to the kinds of ships and their machineries the manuscript also discusses diesel engines gas exchange process power measurement

compositions of two stroke and four stroke cycle diesel engines starting air system turning gear and common marine diesel engines are described the text also highlights steam turbines and boilers turbine construction gearing boiler arrangements boiler operation and coal fired boilers are discussed the book also looks at feed systems pumps and pumping systems fuel and lubricating oils and their treatment air conditioning ventilation and refrigeration the text also describes deck machinery and hull equipment hydraulic systems electrical operation anchor and cargo handling equipment hatch covers bow thruster and safety equipment are considered the book also discusses shafting and propellers steering gear firefighting equipment and strategy and safe working practices the text further looks at electrical equipment in ships alternating current motors and generators direct current generators navigation lights batteries and emergency generator supply are discussed the book is a vital source of information for those interested in marine engineering propulsion systems for navy ships and submarines this book addresses various aspects of ship construction from ship types and construction materials to welding technologies and accuracy control the contents of the book are logically organized and divided into twenty one chapters the book covers structural arrangement with longitudinal and transverse framing systems based on the service load and explains basic structural elements like hatch side girders hatch end beams stringers etc along with structural subassemblies like floors bulkheads inner bottom decks and shells it presents in detail double bottom construction wing tanks duct keels fore aft end structures etc together with necessary illustrations the midship sections of various ship types are introduced together with structural continuity and alignment in ship structures with regard to construction materials the book discusses steel aluminum alloys and fiber reinforced composites various methods of steel material preparation are discussed and plate cutting and forming of plates and sections are explained the concept of line heating for plate bending is introduced welding power source characteristics metal transfer mechanisms welding parameters and their effects on the fusion zone weld deposit and weld bead profile are discussed in detail various fusion welding methods mmaw gmaw saw electroslag welding and electrogas welding and single side welding are explained in detail friction stir welding as one of the key methods of solid state welding as applied to aluminum alloys is also addressed the mechanisms of residual stress formation and distortion are explained in connection with stiffened panel fabrication with an emphasis on weld induced buckling of thin panels further the basic principles of distortion prevention in process distortion control and mitigation techniques like heat sinking thermo mechanical tensioning etc are dealt with in detail in its final section the book describes in

detail various types of weld defects that are likely to occur together with their causes and remedial measures the nondestructive testing methods that are most relevant to ship construction are explained lastly a chapter on accuracy control based on statistical principles is included addressing the need for a suitable mechanism to gauge the ranges of variations so that one can quantitatively target the end product accuracy this book assesses the state of practice and use of ship bridge simulators in the professional development and licensing of deck officers and marine pilots it focuses on full mission computer based simulators and manned models it analyzes their use in instruction evaluation and licensing and gives information and practical guidance on the establishment of training and licensing program standards and on simulator and simulation validation this book presents a collection of authoritative accounts of the evolution and application of royal naval shipborne radars during world war 2 in the fields of weapon control weapon direction action information and fighter direction accounts are also presented of the successful pioneering activities at the admiralty signal establishment in the fields of counter measures against various enemy electronic systems in active operations and also of high frequency direction finding ashore and afloat which in conjunction with radar contributed substantially to winning the battle of the atlantic this introduces firefighting and fire safety systems on ships for seafarers students and cadets as well as naval architects ship designers and engineers it is written in line with the iacs classification rules for firefighting systems and with cross references to the abs and other class regulations contributors from military civilian government industrial and academic spheres in 15 countries present 87 papers on nautical engineering the topics include the optimization of fuzzy autopilots the theoretical design and simulation of neural network approaches to a class of ship control problems the combat information center as the interface between warfare officers and sensor and weapon systems modelling sonar sensors for simulation in a realistic sea environment total ship damage control nets and networks aboard new us navy platforms collision prevention by precalculated evasive manoeuvres the human factors design of future ship control centers a nonlinear mathematical model of a ship propulsion system as an object of an angular velocity control system the dynamic stabilization of a tug tanker tow by applying active control on the tug implementing in service software support for imcs and french philosophy on platform management systems for surface warships the volumes are paginated separately no subject index annotation copyrighted by book news inc portland or

Naval Ship Systems Command Technical News

1966

the development of modern measurement methods for ship systems results from economic changes and increasingly stringent environmental requirements additionally the specificity of ship systems and the conditions in which they work lead to very restrictive requirements for the reliability and accuracy of measuring systems on ships and offshore facilities this collection presents the results of research related to the development of modern systems on ships and offshore facilities with a particular focus on the measurement and assessment of processes occurring in ship propulsion systems ship navigation systems maritime communications maritime safety and alarm systems marine cargo handling equipment offshore technological systems etc this book addresses all types of sensors and measurement systems designed for ships and offshore facilities

Naval Ship Systems Command Technical News

1968

information is always required by organizations of coastal states about the movements identities and intentions of vessels sailing in the waters of interest to them which may be coastal waters straits inland waterways rivers lakes or open seas this interest may stem from defense requirements or from needs for the protection of off shore resources enhanced search and rescue services deterrence of smuggling drug trafficking and other illegal activities and or for providing vessel traffic services for safe and efficient navigation and protection of the environment to meet these needs it is necessary to have a well designed maritime surveillance and control system capable of tracking ships and providing other types of information required by a variety of user groups ranging from port authorities shipping companies marine exchanges to governments and the military principles of integrated maritime surveillance systems will be of vital interest to anyone responsible for the design implementation or provision of a well designed maritime surveillance and control system capable of tracking ships and providing navigational and other types of information required for safe navigation and efficient commercial operation principles of integrated maritime surveillance systems is therefore essential to a

variety of user groups ranging from port authorities to shipping companies and marine exchanges as well as civil governments and the military

Measurement Methods in the Operation of Ships and Offshore Facilities

2021-10-29

this technical book presents in a concise and concentrated form all the essential aspects of operating a ship these include the basics of buoyancy and propulsion technology ship safety occupational safety and environmental protection on board as well as important auxiliary equipment these aspects are explained in more detail using numerous examples the book is intended for ship s engineers at university on board and in shipping companies as well as for design engineers in the shipyard this book is a translation of the original german 1st edition schiffsbetriebstechnik by manfred pfaff published by springer fachmedien wiesbaden gmbh part of springer nature in 2018 the translation was done with the help of artificial intelligence machine translation by the service deepl com a subsequent human revision was done primarily in terms of content so that the book will read stylistically differently from a conventional translation springer nature works continuously to further the development of tools for the production of books and on the related technologies to support the authors

The Marine Engineering Series

2019-04-25

written by experts in the ship design field this book provides a comprehensive approach to evaluating ship resistance and propulsion

Ocean Engineering Research Ship Systems

1970

introduction to ship engine room systems outlines the key systems machinery and equipment found in a ship s engine room it explores the basics of their function with overall practical guidance for engine room operation and maintenance recognising emerging environmental challenges it covers the following topics the role and function of the steering and propulsion systems power generation the heating ventilation and air conditioning systems the water management system engine room fires and emergency response systems engine room watch procedures and checklists the book serves as an accessible introductory text for engineering students at hnc hnd and foundation degree level marine engineering cadets and non engineering marine professionals such as deck officers and cadets who want a general guide to how the engine room functions

An Introduction to Ship Automation and Control Systems

2013

u s oceangoing vessels have half the crew size of 30 years ago thanks to automation and mechanization in the shipping industry but are reductions in crew size increasing the risk of vessel accidents crew size and maritime safety explores how we can minimize risk without hindering technology presenting the most thorough analysis available of key issues such as domestic versus foreign manning practices and safety performance effect of crew size on crew fatigue level of training and ship maintenance and modernizing the u s coast guard approach to crew size regulation the volume features a trend analysis of 20 years of maritime safety data analyzing u s and international laws and treaties concerning ship manning and making recommendations for improvements in addition it includes a model for setting optimum crew levels based on systems engineering and tested with actual ships

INTRODUCTION TO SHIP AUTOMATION AND CONTROL SYSTEMS (REVISED EDITION).

2022

sustainable energy systems on ships is a comprehensive technical reference for all aspects of energy efficient shipping the book discusses the technology options to make shipping energy

consumption greener focusing on the smarter integration of energy streams the introduction of renewable resources and the improvement of control and operability chapters not only describe each technology individually but also analyze their interconnections when implemented onboard and compare them in terms of suitability for different vessels and economic viability readers of sustainable energy systems on ships will find an invaluable reference suitable for researchers professionals and managers involved in the shipping industry and those working on related energy efficiency technologies fuel cells and in the transport industry generally students of maritime engineering will also be well served by this reference clear analysis of the current implementation status of each technology discussed the barriers for further development and the potential for large scale implementation enables decision making on the most suitable technologies for each type of vessel integrates energy efficiency and emission control rules regulations technologies including data science and challenges in relation to the shipping industry includes industry case studies on the integration of novel energy conversion technologies and renewable energy sources in operating ships

Principles of Integrated Maritime Surveillance Systems

2000

this book introduces a holistic approach to ship design and its optimisation for life cycle operation it deals with the scientific background of the adopted approach and the associated synthesis model which follows modern computer aided engineering cae procedures it integrates techno economic databases calculation and multi objective optimisation modules and s w tools with a well established computer aided design cad platform along with a virtual vessel framework vvf which will allow virtual testing before the building phase of a new vessel the resulting graphic user interface gui and information exchange systems enable the exploration of the huge design space to a much larger extent and in less time than is currently possible thus leading to new insights and promising new design alternatives the book not only covers the various stages of the design of the main ship system but also addresses relevant major onboard systems components in terms of life cycle performance to offer readers a better understanding of suitable outfitting details which is a key aspect when it comes the outfitting intensive products of international shipyards the book disseminates results of the eu funded horizon 2020 project holiship

Ship Operation Technology

2021-08-24

traditionally society has regulated hazardous industries by detailed references to engineering codes standards and hardware requirements these days a risk based approach is adopted risk analysis involves identifying hazards categorizing the risks and providing the necessary decision support to determine the necessary arrangements and measures to reach a safe yet economical operating level when adopting such an approach the abundance of techniques available to express risk levels can often prove confusing and inadequate this highly practical guide to safety and risk analysis in marine systems not only adds to the current techniques available but more importantly identifies instances where traditional techniques fall short uncertainties that manifest within risk analysis are highlighted and alternative solutions presented in addition to risk analysis techniques this book addresses influencing elements including reliability maintenance decision making and human error the highly practical approach of this title ensures it is accessible to the widest possible audience

Ship Resistance and Propulsion

2011-08-08

the only book that covers fundamental shipboard design and verification concepts from individual devices to the system level shipboard electrical system design and development requirements are fundamentally different from utility based power generation and distribution requirements electrical engineers who are engaged in shipbuilding must understand various design elements to build both safe and energy efficient power distribution systems this book covers all the relevant technologies and regulations for building shipboard power systems which include commercial ships naval ships offshore floating platforms and offshore support vessels in recent years offshore floating platforms have been frequently discussed in exploring deep water resources such as oil gas and wind energy this book presents step by step shipboard electrical system design and verification fundamentals and provides information on individual electrical devices and practical design examples along with ample illustrations to back them in addition shipboard power systems

design and verification fundamentals presents real world examples and supporting drawings for shipboard electrical system design includes comprehensive coverage of domestic and international rules and regulations e g ieee 45 ieee 1580 covers advanced devices such as vfd variable frequency drive in detail this book is an important read for all electrical system engineers working for shipbuilders and shipbuilding subcontractors as well as for power engineers in general

Introduction to Ship Engine Room Systems

2023-04-06

maritime navigation has rapidly developed since the publication of the last edition of the title with methods of global position fixing for shipping becoming standardized as in the previous two editions this edition will provide a sound basis for the understanding of modern navigation systems and brings the student or professional up to date with the latest developments in technology and the growing standardization of maritime navigation techniques developed with close scrutiny from the us merchant marine academy and the major maritime navigation centres in the uk out dated techniques have been replaced by an expanded section on the now standard navstar gps systems and the integrated nav in addition a new chapter on the application of electronic charts will also be included as well as problems at the end of each chapter with worked solutions

Bureau of Ships Journal

1966

ship and mobile offshore unit automation a practical guide a practical guide gives engineers a much needed reference on relevant standards and codes along with practical case studies on how to use these standards on actual projects and plans packed with the critical procedures necessary for each phase of the project the book also gives an outlook on trends of development for control and monitoring systems including usage of artificial intelligence in software development and prospects for the use of autonomous vessels rounding out with a glossary and introductory chapter specific to the new marine engineer just starting this book delivers a source of valuable

information to help offshore engineers be better prepared to safely and efficiently design today s offshore unit control systems helps readers understand the worldwide offshore unit regulations necessary for monitoring systems and automation installation including iso iec ieee imo solas and modu abs dnvgl api nma and norsok presents real world examples that apply standards provides tactics on how to procure control and monitoring systems specific to the offshore industry

Crew Size and Maritime Safety

1991-02-01

marine navigation interfaces data processing navigation water transport engineering radio equipment communication equipment radionavigation digital signals ships

Sustainable Energy Systems on Ships

2022-07-21

marine navigation interfaces data processing navigation water transport engineering radio equipment communication equipment radionavigation digital signals ships open systems interconnection transport layer osi

A Holistic Approach to Ship Design

2018-12-11

most ocean vessels are underactuated but control of their motion in the real ocean environment is essential starting with a review of the background on ocean vessel dynamics and nonlinear control theory the authors systematic approach is based on various nontrivial coordinate transformations coupled with advanced nonlinear control design methods this strategy is then used for the development and analysis of a number of ocean vessel control systems with the aim of achieving advanced motion control tasks including stabilization trajectory tracking path tracking and path following control of ships and underwater vehicles offers the reader new results in the nonlinear

control of underactuated ocean vessels efficient designs for the implementation of controllers on underactuated ocean vessels numerical simulations and real time implementations of the control systems designed on a scale model ship for each controller developed to illustrate their effectiveness and afford practical guidance

Shipboard Systems Costs

1967

the harmful effects of anti fouling systems were considered by the international maritime organization s marine environment protection committee mepc for the first time in 1988 when the paris commission requested the mepc to consider the need for measures to restrict the use of tributyltin tbt compounds on seagoing vessels as a first step the committee at its thirtieth session in 1990 adopted resolution mepc 46 30 on measures to control potential adverse impacts associated with the use of tributyltin compounds in anti fouling paints which recommends that imo member governments adopt measures to eliminate the use of anti fouling paint containing tbt on non aluminium hulled vessels of less than 25 m in length and eliminate the use of tbt based anti fouling paints with an average leaching rate of more than four micrograms of organotin per square centimetre per day these recommendations were intended to be interim measures until imo could consider a possible total prohibition of tbt compounds in anti fouling systems from 1990 onwards mepc was presented with tbt monitoring results which reconfirmed the toxicity of tbt compounds as well as with information on existing alternatives including their effectiveness and the risk posed to the marine environment by these systems this 2005 edition reproduces the texts of the international convention on the control of harmful anti fouling systems on ships 2001 the four conference resolutions and the guidelines developed and adopted by the organization

Technology and Safety of Marine Systems

2003-07-22

in an effort to contribute to global efforts by addressing the marine pollution from various emission types this special issue of ship lifecyle for journal of marine science and engineering

was inspired to provide a comprehensive insight for naval architects marine engineers designers shipyards and ship owners who strive to find optimal ways to survive in competitive markets by improving cycle time and the capacity to reduce design production and operation costs while pursuing zero emission in this context this special issue is devoted to providing insights into the latest research and technical developments on ship systems and operation with a life cycle point of view the goal of this special issue is to bring together researchers from the whole marine and maritime community into a common forum to share cutting edge research on cleaner shipping it is strongly believed that such a joint effort will contribute to enhancing the sustainability of the marine and maritime activities this special issue features six novel publications dedicated to this endeavor first of all as a proactive response to transitioning to cleaner marine fuel sources numerous aspects of the excellence of fuel cell based hybrid ships were demonstrated through four publications in addition two publications demonstrated the effectiveness of life cycle assessment lca applicable to marine vessels

Defense Inventory

1990

assesses the state of the art in automatic identification system ais display technologies evaluates system designs and capabilities and reviews the human factors aspects associated with operating these systems

Report

1970

introduction to marine engineering discusses machineries and related equipment in ships the book first gives an introduction to the kinds of ships and their machineries the manuscript also discusses diesel engines gas exchange process power measurement compositions of two stroke and four stroke cycle diesel engines starting air system turning gear and common marine diesel engines are described the text also highlights steam turbines and boilers turbine construction gearing boiler arrangements boiler operation and coal fired boilers are discussed the book also

looks at feed systems pumps and pumping systems fuel and lubricating oils and their treatment air conditioning ventilation and refrigeration the text also describes deck machinery and hull equipment hydraulic systems electrical operation anchor and cargo handling equipment hatch covers bow thruster and safety equipment are considered the book also discusses shafting and propellers steering gear firefighting equipment and strategy and safe working practices the text further looks at electrical equipment in ships alternating current motors and generators direct current generators navigation lights batteries and emergency generator supply are discussed the book is a vital source of information for those interested in marine engineering

Report on Survey of U.S. Shipbuilding and Repair Facilities

2001

propulsion systems for navy ships and submarines

Shipboard Power Systems Design and Verification Fundamentals

2018-07-31

this book addresses various aspects of ship construction from ship types and construction materials to welding technologies and accuracy control the contents of the book are logically organized and divided into twenty one chapters the book covers structural arrangement with longitudinal and transverse framing systems based on the service load and explains basic structural elements like hatch side girders hatch end beams stringers etc along with structural subassemblies like floors bulkheads inner bottom decks and shells it presents in detail double bottom construction wing tanks duct keels fore aft end structures etc together with necessary illustrations the midship sections of various ship types are introduced together with structural continuity and alignment in ship structures with regard to construction materials the book discusses steel aluminum alloys and fiber reinforced composites various methods of steel material preparation are discussed and plate cutting and forming of plates and sections are explained the concept of line heating for plate bending is introduced welding power source characteristics metal transfer mechanisms welding parameters and their effects on the fusion zone weld deposit

and weld bead profile are discussed in detail various fusion welding methods mmaw gmaw saw electroslag welding and electrogas welding and single side welding are explained in detail friction stir welding as one of the key methods of solid state welding as applied to aluminum alloys is also addressed the mechanisms of residual stress formation and distortion are explained in connection with stiffened panel fabrication with an emphasis on weld induced buckling of thin panels further the basic principles of distortion prevention in process distortion control and mitigation techniques like heat sinking thermo mechanical tensioning etc are dealt with in detail in its final section the book describes in detail various types of weld defects that are likely to occur together with their causes and remedial measures the nondestructive testing methods that are most relevant to ship construction are explained lastly a chapter on accuracy control based on statistical principles is included addressing the need for a suitable mechanism to gauge the ranges of variations so that one can quantitatively target the end product accuracy

Electronic Navigation Systems

2007-06-07

this book assesses the state of practice and use of ship bridge simulators in the professional development and licensing of deck officers and marine pilots it focuses on full mission computer based simulators and manned models it analyzes their use in instruction evaluation and licensing and gives information and practical guidance on the establishment of training and licensing program standards and on simulator and simulation validation

Emergency Ship Salvage Material Catalog

1977

this book presents a collection of authoritative accounts of the evolution and application of royal naval shipborne radars during world war 2 in the fields of weapon control weapon direction action information and fighter direction accounts are also presented of the successful pioneering activities at the admiralty signal establishment in the fields of counter measures against various enemy electronic systems in active operations and also of high frequency direction

finding ashore and afloat which in conjunction with radar contributed substantially to winning the battle of the atlantic

Ship and Mobile Offshore Unit Automation

2019-08-23

this introduces firefighting and fire safety systems on ships for seafarers students and cadets as well as naval architects ship designers and engineers it is written in line with the iacs classification rules for firefighting systems and with cross references to the abs and other class regulations

Maritime Navigation and Radiocommunication Equipment and Systems. Digital Interfaces. Multiple Talkers and Multiple Listeners. Ship Systems Interconnection. Companion Standard Requirements and Basic Companion Standards

2002-04-23

contributors from military civilian government industrial and academic spheres in 15 countries present 87 papers on nautical engineering the topics include the optimization of fuzzy autopilots the theoretical design and simulation of neural network approaches to a class of ship control problems the combat information center as the interface between warfare officers and sensor and weapon systems modelling sonar sensors for simulation in a realistic sea environment total ship damage control nets and networks aboard new us navy platforms collision prevention by precalculated evasive manoeuvres the human factors design of future ship control centers a nonlinear mathematical model of a ship propulsion system as an object of an angular velocity control system the dynamic stabilization of a tug tanker tow by applying active control on the tug implementing in service software support for imcs and french philosophy on platform management systems for surface warships the volumes are paginated separately no subject index annotation copyrighted by book news inc portland or

Marine Structures Research Recommendations

1997-06-08

Maritime Navigation and Radiocommunication Equipment and Systems. Digital Interfaces. Multiple Talkers and Multiple Listeners. Ship Systems Interconnection. Transport Profile Requirements and Basic Transport Profile

2002-04-23

Control of Ships and Underwater Vehicles

2009-08-09

Anti-fouling Systems

2005

Ship Lifecycle

2020-06-16

Shipboard Automatic Identification System Displays

2003

Introduction to Marine Engineering

2013-10-22

Ship Electric Energy Systems

2013

Faceplate

1971

Propulsion Systems for Navy Ships and Submarines

2018-06-16

Ship Construction and Welding

2016-11-09

Simulated Voyages

1996-04-04

The Applications of Radar and Other Electronic Systems in the Royal Navy in World War 2

2016-07-27

Firefighting and Fire Safety Systems on Ships

2023-04-26

Eleventh Ship Control Systems Symposium

1997

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