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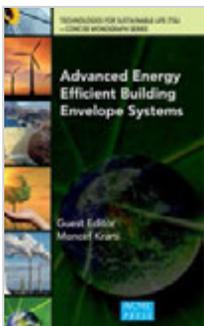
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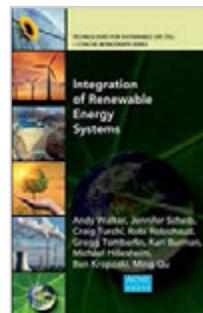
FOCUS ON...CLEAN ENERGY EBOOKS



Advanced Energy Efficient Building Envelope Systems

This monograph presents the latest research developments in innovative building envelope systems. These systems have the ability to allow building structures to be responsive to changes in outdoor conditions to ensure a comfortable indoor environment at higher energy efficiency compared to conventional systems.

ISBN: 9780791861370 (2017)



Integration of Renewable Energy Systems

Renewable energy technologies used on buildings include daylighting; solar photovoltaics; solar water heating; solar ventilation air preheating; passive solar heating and cooling load avoidance; wind power; biomass heat (or cogeneration) anaerobic digestion of waste; and geothermal heat. Ground source heat pumps are also often considered, in-part, as RE systems.

ISBN: 9780791861240 (2016)

Handbook of Integrated and Sustainable Buildings Equipment and Systems, Volume 1: Energy Systems

This handbook is a direct result of an ASME initiative on Integrated/Sustainable Building Equipment and Systems (ISBES), with the objective of filling voids in the literature and motivating advances on integrated mechanical systems for sustainable buildings.

ISBN: 9780791861271 (2017)

Thermoactive Foundations for Sustainable Buildings

This monograph documents the current state of the art in Thermo-Active Foundations (TAFs) suitable for efficiently and sustainably heating and cooling buildings. TAFs, also referred to as thermal or energy piles, offer innovative and sustainable alternatives to ground-source heat pumps as well as other conventional heating, ventilating, and air conditioning (HVAC) systems to heat and cool commercial as well as residential buildings in several regions in the world.

ISBN: 9780791861059 (2015)

MORE ASME EBOOKS

2019

Case Studies in Fluid Mechanics with Sensitivities to Governing Variables

This book covers the many issues that occur in practical fluid mechanics, heat transfer, and mass transfer, and examines the basic laws (the conservation of matter, conservation of momentum, conservation of energy, and the second law of thermodynamics) of these areas. It offers problem solutions that start with simplifying engineering assumptions and then identifies the governing equations and dependent and independent variables. When solutions to basic equations are not possible, the book utilizes historical experimental studies. It also looks at determining appropriate thermo-physical properties of the fluid under investigation and covers solutions to governing equations with experimental studies.

ISBN: 9781119524786

Dynamics of Particles and Rigid Bodies: A Self-Learning Approach

A unique approach to teaching particle and rigid body dynamics using solved illustrative examples and exercises to encourage self-learning. The study of particle and rigid body dynamics is a fundamental part of curricula for students pursuing graduate degrees in areas involving dynamics and control of systems.

ISBN: 9781119463207

Electromagnetic Induction Imaging: Theory and Biomedical Applications

This 20th volume in our BioNano monographs series offers comprehensive descriptions of recent investigations on the development and biomedical applications of electromagnetic (EM) induction imaging, which enables scientists and engineers to use EM imaging techniques to develop medical diagnostic and radiotherapy instruments.

ISBN: 9780791860465

Marketing of Engineering Consultancy Services: A Global Perspective

The latest volume in our *Technical Manager's Survival Guides* book series. As the global economy and society undergoes a tectonic shift to post-industrial information society with knowledge capital as its new resource, marketing of services is concurrently experiencing a paradigm shift. This book is a unique blend of the authors' decades of experience in the engineering consultancy service industry, combined with scholarly and academic excellence.

ISBN: 9780791861837

Mechanics of Accuracy in Engineering Design of Machines and Robots, Volume 2: Stiffness and Metrology

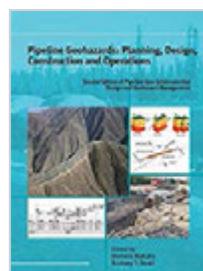
Volume 2 of the book continues consideration of the accuracy-related problem as applied to machines and robots started in Volume 1. Two themes are developed in Volume 2: stiffness-compliance directly associated with the machine and robot accuracy through static deformations (Part 1) and computer-aided metrology aimed at final assessments of the accuracy-associated performance indexes (Part 2).

ISBN: 9780791861691

Oilwell Drilling Engineering

Fundamental elements of drilling provide the foundation for more detailed analyses throughout the book. Special features include comprehensive presentation of: 1) Drilling hydraulics, 2) Drilling mechanics including vibration control, 3) Drilling economics, 4) Maintenance and reliability, and 5) Directional drilling including bit navigation, well path monitoring and directional control. May be used as a university textbook or an industry reference.

ISBN: 9780791861875



Pipeline Geohazards: Planning, Design, Construction and Operations

This second edition of the 2008 ASME publication on the same topic is an expanded and updated treatment of a broader range of pipeline geohazard management aspects to serve the global community of pipeliners – both those of a geotechnical background as well as their colleagues in the multi-disciplinary teams that deal practically with these issues.

ISBN: 9780791861790

The Monte Carlo Ray-Trace Method in Radiation Heat Transfer and Allied Optics

This book offers the most modern and up-to-date approach to radiation heat transfer modelling and performance evaluation of optical instruments. The Monte Carlo ray-trace (MCRT) method is based on the statistically predictable behavior of entities, called rays, which describe the paths followed by energy bundles as they are emitted, reflected, scattered, refracted, diffracted, and ultimately absorbed.

ISBN: 9781119518518

2018

Compact Heat Exchangers: Analysis, Design and Optimization using FEM and CFD Approach

This book brings new concepts of design data generation numerically (which is more cost effective than generic design data) and can be used by design and practicing engineers more effectively.

ISBN: 9781119424185

BESTSELLER**Companion Guide to the ASME Boiler & Pressure Vessel and Piping Codes, Fifth Edition, Two-Volume Set**

This fully updated and revised fifth edition of this classic reference work is current to the latest ASME BPV Code release. It is available in a convenient two-volume format that focuses on all twelve sections of the ASME Code, as well as relevant piping codes.

ISBN: [9780791861295](#)

Engineering Optimization: Applications, Methods, and Analysis

Optimization is an inherent human tendency that gained new life after the advent of calculus; now, as the world grows increasingly reliant on complex systems, optimization has become both more important and more challenging than ever before. Engineering Optimization provides a practically-focused introduction to modern engineering optimization best practices, covering fundamental analytical and numerical techniques throughout each stage of the optimization process.

ISBN: [9781118936337](#)

Proceedings of the International Conference on Control Engineering and Mechanical Design (CEMD 2017)

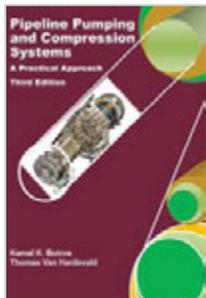
The International Conference on Control Engineering and Mechanical Design (CEMD2017) is a leading annual conference for all researchers in China and abroad. CEMD2017 was held in Xiamen, China, October 20-22, 2017. Control engineering or control systems engineering is the engineering discipline that applies control theory to design systems with desired behaviors.

ISBN: [9780791861677](#)

BESTSELLER**Mechanics of Accuracy in Engineering Design of Machines and Robots, Volume 1: Nominal Functioning and Geometric Accuracy**

Accuracy is one of the fundamental characteristics and one of the most important indexes of the quality of machines and robots. It significantly defines their structure and applications and, in turn, depends on their structure and applications. Accuracy provision, maintenance, and enhancement are permanently hot problems in modern manufacturing and manufacturing science.

ISBN: [9780791861615](#)

**Pipeline Pumping and Compression Systems: A Practical Approach, Third Edition**

This comprehensive professional reference has been substantially revised and updated for the third edition. It is both a training tool and reference text covering all aspects of pipeline pumping and compression system design, configuration, and operation, in addition to the dynamic behavior of all the elements in each system.

ISBN: [9780791861783](#)

Primer on Engineering Standards, Expanded Textbook Edition

Standards supplement the design process by guiding the designer toward consistency, safety, and reliability. As daily life involves increasingly complex and sophisticated instruments, standards become indispensable engineering tools to ensure user safety and product quality. Primer on Engineering Standards: Expanded Textbook Edition delves into standards creation and compliance to provide students and engineers with a comprehensive reference.

ISBN: [9781119466178](#)

Proceedings of the 10th International Symposium on Cavitation (CAV2018)

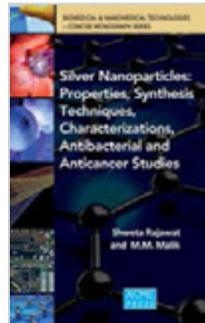
CAV2018 was the 10th International Symposium on Cavitation. It is the world's leading event committed to cavitation where leading scientists and industry experts converge and discuss all phases of cavitation, both fundamental and applied.

ISBN: [9780791861851](#)

Robust Adaptive Control for Fractional-Order Systems with Disturbance and Saturation

This book provides the reader with a good understanding on how to achieve tracking control and synchronization control of fractional-order nonlinear systems with system uncertainties, external disturbance, and input saturation. Although some texts have touched upon control of fractional-order systems, the issues of input saturation and disturbances have rarely been considered together.

ISBN: [9781119393276](#)

**Silver Nanoparticles: Properties, Synthesis Techniques, Characterizations, Antibacterial and Anticancer Studies**

This monograph introduces an historical background of silver and narrates an exhaustive literature review conducted during the research. It gives details about the existing physical, chemical, and biological approaches.

ISBN: [9780791860458](#)

2017**Applications of Mathematical Heat Transfer and Fluid Flow Models in Engineering and Medicine**

This book presents innovative efficient methods in fluid flow and heat transfer developed and widely used over the last fifty years. The analysis is focused on mathematical models that are an essential part of any research effort as they demonstrate the validity of the results obtained.

ISBN: [9781119320562](#)

Combined Cooling, Heating, and Power Systems: Modelling Optimization, and Operation

This book is a comprehensive review of state-of-the-art CCHP modeling, optimization, and operation theory and practice. It was written by an international author team at the forefront of combined cooling, heating, and power (CCHP) systems R&D.

ISBN: 9781119283355

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Consensus on Pre-Commissioning Stages for Cogeneration and Combined Cycle Power Plants

This publication is an important adjunct to several previously published documents prepared to inform, educate, and assist the reader in adequately considering and planning for the many major activities involved in the design, construction, and start-up of cogeneration and combined cycle power plants.

ISBN: 9780791861264

High Frequency Piezo-Composite Micromachined Ultrasound Transducer Array Technology for Biomedical Imaging

In this monograph the authors report the current advancement in high frequency piezoelectric crystal micromachined ultrasound transducers and arrays and their biomedical applications.

ISBN: 9780791860441

International Hydrogen Conference (IHC 2016): Materials Performance in Hydrogen Environments

These proceedings of the conference that took place September 11-14, 2016 in Jackson Lake Lodge, Wyoming, USA, includes hydrogen-assisted fracture in steels and other structural metals; hydrogen-assisted fatigue; advanced methods for characterizing hydrogen-materials interactions; hydrogen dissolution, transport, and trapping; and modeling and simulation.

ISBN: 9780791861387

Nuclear Reactor Thermal-Hydraulics: Past, Present and Future

This monograph summarizes the major developments on nuclear reactor thermal-hydraulics over the last fifty years, primarily for the water-cooled reactors, and provides a direction for the future thermal-hydraulic developments for water-cooled, including small modular reactors or SMR, and Generation IV reactors.

ISBN: 9780791861288

Risk Importance Measures in the Design and Operation of Nuclear Power Plants

In using risk-informed approaches for ensuring safety of operating nuclear power plants (NPPs), risk importance measures obtained from probabilistic risk assessments (PRAs) of the plants are integral elements of consideration in many cases. Obtaining these measures in appropriate forms is helpful for decision makers and can facilitate the use of risk information.

ISBN: 9780791861394

Robot Manipulator Redundancy Resolution

This book describes a novel quadratic programming approach to solving redundancy resolution problems with redundant manipulators. Known as "QP-unified motion planning and control of redundant manipulators" theory, it systematically solves difficult optimization problems of inequality-constrained motion planning and control of redundant manipulators that have plagued robotics engineers and systems designers for more than a quarter century.

ISBN: 9781119381235

Stress in ASME Pressure Vessels, Boilers, and Nuclear Components

A revised and updated edition of the classic text, *Design of Plate and Shell Structures*. This important resource offers engineers and students a text that covers the complexities involved in stress loads and design of plates and shell components in compliance with pressure vessel, boiler, and nuclear standards.

ISBN: 9781119259282

Ultrasonic Welding of Lithium-Ion Batteries

This book contributes to the knowledge base underpinning ultrasonic metal welding (USMW), particularly for the manufacturing of lithium-ion (li-ion) battery cells, modules, and packs as used in electric vehicles. The contributors represent a team of leading experts in the field.

ISBN: 9780791861257

2016

Advances in Multidisciplinary Engineering

This proceedings publication includes papers and abstracts from a dedicated track focused on Multidisciplinary Engineering at the November 2015 International Mechanical Engineering Conference and Exposition (IMECE 2015).

ISBN: 9780791861080

Basic Principles and Potential Applications of Holographic Microwave Imaging

This monograph offers comprehensive descriptions of the most important principles so far proposed for far-field holographic microwave imaging – including reconstruction procedures and imaging systems and apparatus – enabling the reader to use microwaves for diagnostic purposes in a wide range of applications.

ISBN: 9780791860434

Bioprocessing Piping and Equipment Design: A Companion Guide for the ASME BPE Standard

This is a companion guide to the ASME Bioprocessing Piping and Equipment (BPE) Standard and explains what lies behind many of the requirements and recommendations within that industry standard.

ISBN: 9781119284239

BESTSELLER**Commentary on Article CC-3000 Design**

This commentary discusses some of the considerations of the joint ACI-ASME Committee in developing the provisions of ACI Standard 359 and ASME B&PVC Section III, Division 2, Subsection CC, Article CC-3000 on nuclear construction in the 2013 version of the code.

ISBN: 9780791861066

BESTSELLER**Design of Human Powered Vehicles**

Human-Powered Vehicles can provide affordable, sustainable, and healthy transportation to people around the globe.

ISBN: 9780791861103

Design of Mechanical Bearings in Cardiac Assist Devices

This monograph provides an overview of basic principles that are important for design and evaluation of mechanical bearings used in blood pumps, with a primary focus on mechanical bearings used in the second and third generation ventricular assist devices (VADs). The book begins with a general introduction of some basic principles that are important for the design of mechanical bearings.

ISBN: 9780791860427

Foreign Corrupt Practices Act: Fundamentals and Practices

This expert guide to the Foreign Corrupt Practices Act (FCPA) provides a brief overview and history of the FCPA, while also describing the fundamental purpose and requirements of the law.

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BESTSELLER**Fundamentals of Mechanical Vibrations**

This introductory book covers the most fundamental aspects of linear vibration analysis for mechanical engineering students and engineers.

ISBN: 97811119050124

Geothermal Heat Pump and Heat Engine Systems: Theory and Practice

This book takes a unique, holistic approach to the interdisciplinary study of geothermal energy systems, combining low, medium, and high temperature applications into a logical order. The emphasis is on the concept that all geothermal projects contain common elements of a "thermal energy reservoir" that must be properly designed and managed.

ISBN: 9781118961940

BESTSELLER**Global Applications of the ASME Boiler & Pressure Vessel Code**

This book addresses Global Applications of the ASME B&PV Code. It not only updates information presented in 16 chapters of the third volume of the third edition of the Companion Guide, but also has five additional chapters selected for their unique features of ASME Boiler and Pressure Vessel Codes used internationally. Five sections address Global Applications of ASME B&PV Codes and Standards.

ISBN: 9780791861073

BESTSELLER**Introduction to Dynamics and Control in Mechanical Engineering Systems**

An introductory textbook covers dynamics and controls of engineering systems, with particular focus on mechanical engineering systems.

ISBN: 9781118934920

Nonlinear Regression Modeling for Engineering Applications: Modeling, Model Validation, and Enabling Design of Experiments

This book details methods of nonlinear regression, computational algorithms, model validation, interpretation of residuals, and useful experimental design. The focus is on practical applications, with relevant methods supported by fundamental analysis.

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BESTSELLER**Pipeline Integrity Management Systems: A Practical Approach**

The key for success of Pipeline Integrity Management resides in the dynamic linkage and interaction between a management system (MS) and an Integrity Management Program (IMP), known as a Pipeline Integrity Management System (PIMS), for continuously improving pipeline integrity and sustaining risk reduction.

ISBN: 9780791861110

BESTSELLER**Thermal Management of Microelectronic Equipment, Second Edition**

This Second Edition of this classic text is fully updated and greatly expanded, with in-depth revisions that include advancements in the component technology of microelectronics. The most noticeable update is the addition of an entirely new chapter on microwave modules and gallium arsenide (GaAs) chips, which have seldom been discussed in textbooks or publications in the area of thermal management of electronic equipment. The book provides the fundamentals along with a step-by-step analysis approach to engineering, making it an indispensable reference volume.

ISBN: 9780791861097

2015**Biopolymers Based Micro- and Nano-Materials**

This monograph addresses the source and production methods of biopolymers, properties of biopolymers, preparation of micro- and nanomaterials using biopolymers, characterization of micro- and nano-biomaterials, and application of micro- and nano-biomaterials.

ISBN: 9780791860403

Designs and Prototypes of Mobile Robots

For several decades now, mobile robots have been integral to the development of new robotic systems for new applications, even in non-technical areas. The companion volume for this book, *Mobile Robots for Dynamic Environments*, is available separately.

ISBN: 9780791860472

Engineering the Everyday and the Extraordinary: Milestones in Innovation

Engineering the Everyday and the Extraordinary celebrates engineering achievements and their impact on everyday life.

ISBN: 9780791860489

Lean Engineering Education: Driving Content and Competency Mastery

This book presents, for the first time, an outside-in lean engineering perspective of how this commonly accepted and widely practiced and adapted engineering perspective can shape the direction in which the engineers of the future are trained and educated.

ISBN: 9780791860502

Magnetic Bearings for Mechanical Cardiac Assist Devices

In this book, magnetic bearings and their application in ventricular assist devices (VADs) are introduced. First, the operating principles of magnetic bearings are introduced. Typical structures of passive bearings, which are comprised solely of permanent magnets, and active magnetic bearings (AMB), which make use of electromagnets and position sensors to control the position of the rotor, are described.

ISBN: 9780791860410

Mechanical Blood Trauma in Circulatory-Assist Devices

Mechanical cardiovascular assist devices must be properly designed to avoid damage to the blood with which they come in contact. The various preclinical designs and testing, surgical considerations, available surveillance techniques, and clinical consequences are discussed using recent and historical case reports to highlight key points.

ISBN: 9780791860397

Mobile Robots for Dynamic Environments

For several decades now, mobile robots have been integral to the development of new robotic systems for new applications, even in non-technical areas. The companion volume for this book, *Designs and Prototypes of Mobile Robots*, is available separately.

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Modified Detrended Fluctuation Analysis (mDFA)

The ultimate aim of this study is to make detrended fluctuation analysis (DFA) useful for everyone. It introduces a practical method for making a device that can check cyclic rhythm in nature, such as the heartbeat. This book presents empirical evidence revealed by a modified DFA (mDFA).

ISBN: 9780791860380

Policy Instruments and Co-Regulation for the Sustainability of Value Chains

This publication describes several examples of policy instruments that improve the sustainability of value chains. The main part of this publication discusses the potential of co-regulation (combination of public policy instruments with private control mechanisms such as sustainability certification) for global value chains such as food, forestry, and bioenergy.

ISBN: 9780791860519

Supplement to Fluid Mechanics, Water Hammer, Dynamic Stresses, and Piping Design

This Addendum includes recommended additions and corrections to the original text, which was published by ASME Press in 2013. The original text was extensively reviewed and revised and prior to publication the Addendum was used to teach four classes of engineers at SRS.

ISBN: 9780791860496

Toward Consistent Design Evaluation of Nuclear Power Piping by Nonlinear Finite Element Analysis

This monograph addresses a few issues essential for achieving a consistent Design-By-Analysis in accordance with the ASME Boiler & Pressure Vessel Code: nonlinear alternative rules, fatigue, thermal ratcheting, dynamic loads, strain-based criteria, nonlinear finite element procedures, supports under combined stresses, and others.

ISBN: 9780791861042

Unwritten Laws of Ethics and Change in Engineering

This book is based on two popular ASME online self-study courses. Part 1 covers Ethics for Engineers: Doing the Right Thing When No One is Looking, and Part 2 is on Changing Organizational Culture.

ISBN: 9780791860588

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