Imo Solutions

The Code of Federal Regulations is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

This book constitutes the proceedings of the 13th International Conference on Transport Systems Telematics, TST 2013, held in Katowice-Ustron, Poland, in October 2013. The 58 papers included in this volume were carefully reviewed and selected for inclusion in this book. They provide an overview of solutions being developed in the field of intelligent transportation systems, and include theoretical and case studies in the countries of conference participants.

Artificial Intelligence for COVID-19Springer Nature

"The IMO Compendium" is the ultimate collection of challenging high-school-level mathematics problems and is an invaluable resource not only for high-school students preparing for mathematics competitions, but for anyone who loves and appreciates mathematics. The International Mathematical Olympiad (IMO), nearing its 50th anniversary, has become the most popular and prestigious competition for high-school students interested in mathematics. Only six students from each participating country are given the honor of participating in this competition every year. The IMO represents not only a great opportunity to tackle interesting and challenging mathematics problems, it also offers a way for high school students to measure up with students from the rest of the world. Until the first edition of this book appearing in 2006, it has been almost impossible to obtain a complete collection of the problems proposed at the IMO in book form. "The IMO Compendium" is the result of a collaboration between four former IMO participants from Yugoslavia, now Serbia and Montenegro, to rescue these problems from old and scattered manuscripts, and produce the ultimate source of IMO practice problems. This book attempts to gather all the problems and solutions appearing on the IMO through 2009. This second edition contains 143 new problems, picking up where the 1959-2004 edition has left off.

Symposium ...

Maple in Mathematics Education and Research

Proceedings of the 13th International Marine Design Conference (IMDC 2018), June 10-14, 2018, Helsinki, Finland

An Introduction to Diophantine Equations

An Introduction to Bioreactor Hydrodynamics and Gas-Liquid Mass Transfer

A Collection of Problems Suggested for The International Mathematical Olympiads: 1959-2009 Second Edition

13th International Conference on Transport Systems Telematics, TST 2013, Katowice-Ustron, Poland, October 23--26, 2013. Proceedings

The meteoric rise of the photovoltaic (PV) industry is an incredible story. In 2013, Google's investments in PV systems totaled about half a billion dollars and Warren Buffet, one of the famous investors, invested $2.5 billion in the world's largest PV system in California. These gigantic investments by major financial players were made only 40 years after the first two terrestrial PV companies, Solarex and Solar Power Corporation, were formed in the USA. Back in 1973, the two companies employed 20 people and produced only 500 watts of PV power. Now, just 40 years later, over a million people work in the PV industry. The worldwide capacity of operating PV electric generators equals the capacity of about 25 nuclear power plants. The PV industry is growing at an annual rate of 30 percent, equivalent to about five new nuclear power plants per year. Today, solar electricity is a significant supplier of electricity needs, to the extent that PV is forcing the restructuring of 100-year-old electric power utilities. This book describes how this happened and what lies ahead for PV power generation.

This is volume 2 of a 2-volume set. Marine Design XIII collects the contributions to the 13th International Marine Design Conference (IMDC 2018, Espoo, Finland, 10-14 June 2018). The aim of this IMDC series of conferences is to promote all aspects of marine design as an engineering discipline. The focus is on key design challenges and opportunities in the area of current maritime technologies and markets, with special emphasis on: • Challenges in merging ship design and marine applications of experience-based industrial design • Digitalisation as technological enabler for stronger link between efficient design, operations and maintenance in future • Emerging technologies and their impact on future designs • Cruise ship and icebreaker designs including fleet compositions to meet new market demands To reflect on the conference focus, Marine Design XIII covers the following research topic series: •State of art ship design principles - education, design methodology, structural design, hydrodynamic design; •Cutting edge ship designs and operations - ship concept design, risk and safety, arctic design, autonomous ships; •Energy efficiency and propulsions - energy efficiency, hull form design; propulsion equipment design; •Wider marine designs and practices - navy ships, offshore and wind farms and production. Marine Design XIII contains 2 state-of-the-art reports on design methodologies and cruise ships design, and 4 keynote papers on new directions for vessel design practices and tools, digital maritime traffic, naval ship designs, and new tanker design for arctic. Marine Design XIII will be of interest to academics and professionals in maritime technologies and marine design.

The emission of greenhouse gases from shipping is a serious problem for international climate change policy and they cannot be allowed to grow uncontrolled. The International Maritime Organization (IMO) has estimated that international shipping was responsible for annual emissions of around 843 million tonnes of carbon dioxide (MtCO2) in 2007, or around 3 per cent of total man-made carbon emissions. This report follows up an earlier inquiry (Reducing carbon emissions from transport, HC 981-I, 9th report of session 2005-06, ISBN 9780215030412)and examines what efforts the Government is making in three main respects: (a) negotiations to tackle shipping emissions at an international level (within the IMO, the UN Framework Convention on Climate Change and the EU); (b) measures by which the UK is to take into account its share of international shipping emissions in domestic carbon budgets (through the Climate Change Act 2008); and (c) support in the UK for operational improvements and technological R&D aimed at reducing emissions from shipping. Very little progress has been made at the international level. A lack of urgency shown by industrialised nations and blocking actions by developing economies share the blame. The Government admits that the current calculation of the UK's share of international shipping emissions is an underestimate and should consult on how to improve the methodology it uses to calculate the UK's share of international shipping emissions. Government support for research and development should focus on technologies that can be retrofitted to existing ships, and offer a genuine alternative to fossil fuels, such as hydrogen fuel cells. There should be drastic acceleration of R&D into low- and zero-carbon propulsion systems.

This book constitutes the proceedings of the 15th International Conference on Group Decision and Negotiation, GDN 2015, held in Warsaw, Poland, in June 2015. The GDN meetings aim to bring together researchers and practitioners from a wide spectrum of fields, including economics, management, computer science, engineering, and decision science. From a total of 119 submissions, 32 papers were accepted for publication in this volume. The papers are organized into topical sections on group problem structuring and negotiation, negotiation and group processes, preference analysis and decision support, formal models, voting and collective decision making, conflict resolution in energy and environmental management, negotiation support systems and studies, online collaboration and competition, and market mechanisms and their users.

Outlooks and Insights on Group Decision and Negotiation

2000-

A Legal Primer to an Emerging International Regime

Solutions and Constraints

USA and International Mathematical Olympiads, 2003

State of the Art Surveys

Advances in Marine Navigation

The International Conference on Engineering Research and Applications (ICERA 2018), which took place at Thai Nguyen University of Technology, Thai Nguyen, Vietnam on December 1–2, 2018, provided an international forum to disseminate information on latest theories and practices in engineering research and applications. The conference focused on original research work in areas including Mechanical Engineering, Materials and Mechanics of Materials, Mechatronics and Micro Mechatronics, Automotive Engineering, Electrical and Electronics Engineering, Information and Communication Technology. By disseminating the latest advances in the field, The Proceedings of ICERA 2018, Advances in Engineering Research and Application, helps academics and professionals alike to reshape their thinking on sustainable development.

Topics in Modal Analysis, Volume 7: Proceedings of the 31st IMAC, A Conference and Exposition on Structural Dynamics, 2013, the seventh volume of seven from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on fundamental and applied aspects of Structural Dynamics, including papers on: Fluid Structure Interaction Adaptive Structures Experimental Techniques Analytical Methods Damage Detection Damping of Materials & Members Modal Parameter Identification Modal Testing Methods System Identification Active Control Modal Parameter Estimation Processing Modal Data

Reviews and compares the major types of bioreactors, defines their pros and cons, and identifies research needs and figures of merit that have yet to be addressed Describes common modes of operation in bioreactors Covers the three common bioreactor types, including stirred-tank bioreactors, bubble column bioreactors, and airlift bioreactors Details less common bioreactors types, including fixed bed bioreactors and novel bioreactor designs Discusses advantages and disadvantages of each bioreactor and provides a procedure for optimal bioreactor selection based on current process needs Reviews the problems of bioreactor selection globally while considering all bioreactor options rather than concentrating on one specific bioreactor type

The Mathematical Olympiad examinations, covering the USA Mathematical Olympiad (USAMO) and the International Mathematical Olympiad (IMO), have been published annually since 1976. This is the fourth volume in that series. The IMO is a world mathematics competition for high school students that takes place each year in a different country. Students from all over the world participate in this competition. These Olympiad style exams consist of several challenging essay-type problems. Although a correct and complete solution to an Olympiad problem often requires deep analysis and careful argument, the problems require no more than a solid background in high school mathematics coupled with a dose of mathematical ingenuity. There are helpful hints provided for each of the problems. These hints often help lead the student to a solution of the problem. Complete solutions to each of the problems is also included, and many of the problems are presented together with a collection of remarkable solutions developed by the examination committees, contestants and experts, during or after the contest. For each problem with multiple solutions, some common crucial results are presented at the beginning of these solutions.

Natural Gas Engines

From the Training of the USA IMO Team

The American Experience

Meteoric Rise of the Solar Industry

Proceedings of the International Conference, ICERA 2018

Energy Solutions to Combat Global Warming

Mathematical Olympiad In China (2009-2010): Problems And Solutions

Handbook of Differential Equations, Second Edition is a handy reference to many popular techniques for solving and approximating differential equations, including numerical methods and exact and approximate analytical methods. Topics covered range from transformations and constant coefficient linear equations to Picard iteration, along with conformal mappings and inverse scattering. Comprised of 192 chapters, this book begins with an introduction to transformations as well as general ideas about differential equations and how they are solved, together with the techniques needed to determine if a partial differential equation is well-posed or what the "natural" boundary conditions are. Subsequent sections focus on exact and approximate analytical solution techniques for differential equations, along with numerical methods for ordinary and partial differential equations. This monograph is intended for students taking courses in differential equations at either the undergraduate or graduate level, and should also be useful for practicing engineers or scientists who solve differential equations on an occasional basis.

This book contributes to the identification and systematisation of current telematics solutions applied in maritime and inland waterway transport. It represents the first time that most telematics systems currently applied in the modes of water transport have been described in detail. The volume details the massive scope of the application of telematics solutions in maritime transport, showing how it ranges from simple systems of navigation to unmanned systems which have resulted in the first attempts at launching fully autonomic vessels. The current challenges in the field involve the integration of the systems of maritime and inland waterway transport within the framework of multimodal transport operations.

A Clear Outline of Current Methods for Designing and Implementing Automotive Systems Highlighting requirements, technologies, and business models, the Automotive Embedded Systems Handbook provides a comprehensive overview of existing and future automotive electronic systems. It presents state-of-the-art methodological and technical solutions in the areas of in-vehicle architectures, multipartner development processes, software engineering methods, embedded communications, and safety and dependability assessment. Divided into four parts, the book begins with an introduction to the design constraints of automotive-embedded systems. It also examines AUTOSAR as the emerging de facto standard and looks at how key technologies, such as sensors and wireless networks, will facilitate the conception of partially and fully autonomous vehicles. The next section focuses on networks and protocols, including CAN, LIN, FlexRay, and TTCAN. The third part explores the design processes of electronic embedded systems, along with new design methodologies, such as the virtual platform. The final section presents validation and verification techniques relating to safety issues. Providing domain-specific solutions to various technical challenges, this handbook serves as a reliable, complete, and well-documented source of information on automotive embedded systems.

"Andreescu's 51 'introductory problems' and 51 'advanced problems, ' all novel, would nicely supplement any university course in combinatorics or discrete mathematics. This volume contains detailed solutions, sometimes multiple solutions, for all the problems, and some solutions offer additional twists for further thought . . . "a "CHOICE 102 Combinatorial Problems consists of carefully selected problems that have been used in the training and testing of the USA International Mathematical Olympiad (IMO) team. The text provides in-depth enrichment in the important areas of combinatorics by systematically reorganizing and enhancing problem-solving tactics and strategies. The book gradually builds combinatorial skills and techniques and not only broadens the student's view of mathematics, but is also excellent for training teachers.

102 Combinatorial Problems
How Companies Win the Mergers and Acquisitions Game
A Decade of the Berkeley Math Circle
For Transportation and Power Generation
Code of Federal Regulations
Winning Solutions
Introductory Nanoelectronics

This book covers the various advanced reciprocating combustion engine technologies that utilize natural gas and alternative fuels for transportation and power generation applications. It is divided into three major sections consisting of both fundamental and applied technologies to identify (but not limited to) clean, high-efficiency opportunities with natural gas fueling that have been developed through experimental protocols, numerical and high-performance computational simulations, and zero-dimensional, multizone combustion simulations. Particular emphasis is placed on statutes to monitor fine particulate emissions from tailpipe of engines operating on natural gas and alternative fuels.

This problem-solving book is an introduction to the study of Diophantine equations, a class of equations in which only integer solutions are allowed. The presentation features some classical Diophantine equations, including linear, Pythagorean, and some higher degree equations, as well as exponential Diophantine equations. Many of the selected exercises and problems are original or are presented with original solutions. An Introduction to Diophantine Equations: A Problem-Based Approach is intended for undergraduates, advanced high school students and teachers, mathematical contest participants — including Olympiad and Putnam competitors — as well as readers interested in essential mathematics. The work uniquely presents unconventional and non-routine examples, ideas, and techniques.

See also A FIRST STEP TO MATHEMATICAL OLYMPIAD PROBLEMS The International Mathematical Olympiad (IMO) is an annual international mathematics competition held for pre-collegiate students. It is also the oldest of the international science olympiads, and competition for places is particularly fierce. This book is an amalgamation of the booklets originally produced to guide students intending to contend for placement on their country's IMO team. See also A First Step to Mathematical Olympiad Problems which was published in 2009. The material contained in this book provides an introduction to the main mathematical topics covered in the IMO, which are: Combinatorics, Geometry and Number Theory. In addition, there is a special emphasis on how to approach unseen questions in Mathematics, and model the writing of proofs. Full answers are given to all questions. Though A Second Step to Mathematical Olympiad Problems is written from the perspective of a mathematician, it is written in a way that makes it easily comprehensible to adolescents. This book is also a must-read for coaches and instructors of mathematical competitions.

Papers from the fall 1994 symposium present research and developments from academia, government, organizations, and industry in ferroelectric thin films, organized in sections on characterization, layered structure ferroelectrics, photonic phenomena, process integration, dram thin film technology, solution deposition, and piezoelectric and IR thin film technology. Highlights include the first public technical disclosures of Y1 nonvolatile memory material. Annotation copyright by Book News, Inc., Portland, OR

Topics in Nonlinear Dynamics, Volume 3

Topics in Modal Analysis, Volume 7

15th International Conference, GDN 2015, Warsaw, Poland, June 22-26, 2015, Proceedings
Problems and Solutions
Ferroelectric Thin Films
The Maritime Labour Convention, 2006
Closing the Gap
This book presents a compilation of the most recent implementation of artificial intelligence methods for solving different problems generated by the COVID-19. The problems addressed came from different fields and not only from medicine. The information contained in the book explores different areas of machine and deep learning, advanced image processing, computational intelligence, IoT, robotics and automation, optimization, mathematical modeling, neural networks, information technology, big data, data processing, data mining, and likewise. Moreover, the chapters include the theory and methodologies used to provide an overview of applying these tools to the useful contribution to help to face the emerging disaster. The book is primarily intended for researchers, decision makers, practitioners, and readers interested in these subject matters. The book is useful also as rich case studies and project proposals for postgraduate courses in those specializations.
Our oceans are suffering under the impacts of climate change. Despite the critical role that oceans play in climate regulation, international climate law and the law of the sea are developed as two different, largely separate, legal regimes. The main objective of this book is to assess how the law of the sea can be interpreted, developed and applied to support the objectives of the United Nations Climate Regime. By identifying the potential and constraints of the law of the sea regime in supporting and complementing the climate regime in the mitigation of and adaptation to climate change, this book offers a new perspective on the law of the sea and its capacity to evolve to respond to systemic challenges, and its potential to adapt and ensure a resilient and sustainable future.
This book constitutes refereed proceedings of the 4th Maple Conference, MC 2020, held in Waterloo, Ontario, Canada, in November 2020. The 25 revised full papers and 3 short papers were carefully reviewed and selected out of 75 submissions, one invited paper is also presented in the volume. The papers included in this book cover topics in education, algorithms, and applciations of the mathematical software Maple.
The new M&A bible. Few actions can change the value of a company—and its competitive future—as quickly and dramatically as an acquisition. Yet most companies fail to create shareholder value from these deals, and in many cases they destroy it. It doesn't have to be this way. In The Synergy Solution, Deloitte's Mark Sirower and Jeff Weirens show acquirers how to develop and execute an M&A strategy—end to end—that not only avoids the pitfalls that so many companies fall into but also creates real, long-term shareholder value. This strategy includes how to: Become a prepared "always on" acquirer Test the investment thesis and DCF valuation of a deal Plan for a successful Announcement Day, and properly communicate synergy promises to investors and other stakeholders Realize those promised synergies through integration planning and post-close execution Manage change and build a new, combined organization Sirower and Weirens provide invaluable background to those considering M&A, laying out the issues they have to consider, how to analyze them, and how to plan and execute the deal effectively. They also show those who have already started the process of M&A how to maximize their chances of success. There's an art and a science to getting mergers and acquisitions right, and this powerful book provides the insights and strategies acquirers need to find success at every stage of an often complex and perilous process.
Proceedings of the Marine Safety Council
Sun Above the Horizon
The Synergy Solution
fourth report of session 2008-09, report, together formal minutes, oral and written evidence
The Law of the Sea and Climate Change
Advances in Engineering Research and Application
Physical Theory and Device Analysis

In two volumes, this new edition presents the state of the art in Multiple Criteria Decision Analysis (MCDA). Reflecting the explosive growth in the field seen during the last several years, the editors not only present surveys of the foundations of MCDA, but look as well at many new areas and new applications. Individual chapter authors are among the most prestigious names in MCDA research, and combined their chapters bring the field completely up to date. Part I of the book considers the history and current state of MCDA, with surveys that cover the early history of MCDA and an overview that discusses the ☐pre-theoretical☐ assumptions of MCDA. Part II then presents the foundations of MCDA, with individual chapters that provide a very exhaustive review of preference modeling, along with a chapter devoted to the axiomatic basis of the different models that multiple criteria preferences. Part III looks at outranking methods, with three chapters that consider the ELECTRE methods, PROMETHEE methods; and a look at the rich literature of other outranking methods. Part IV, on Multiattribute Utility and Value Theories (MAUT), presents chapters on the fundamentals of this approach, the very well known UTA methods, the Analytic Hierarchy Process (AHP) and its more recent extension, the Analytic Network Process (ANP), as well as a chapter on MACBETH (Measuring Attractiveness by a Categorical Based Evaluation Technique). Part V looks at Non-Classical MCDA Approaches, with chapters on risk and uncertainty in MCDA, the decision rule approach to MCDA, the fuzzy integral approach, the verbal decision methods, and a tentative assessment of the role of fuzzy sets in decision analysis. Part VI, on Multiobjective Optimization, contains chapters on recent developments of vector and set optimization, the state of the art in continuous multiobjective programming, multiobjective combinatorial optimization, fuzzy multicriteria optimization, a review of the field of goal programming, interactive methods for solving multiobjective optimization problems, and relationships between MCDA and evolutionary multiobjective optimization (EMO). Part VII, on Applications, selects some of the most significant areas, including contributions of MCDA in finance, energy planning problems, telecommunication network planning and design, sustainable development, and portfolio analysis. Finally, Part VIII, on MCDM software, presents well known MCDA software packages.

Many mathematicians have been drawn to mathematics through their experience with math circles: extracurricular programs exposing teenage students to advanced mathematical topics and a myriad of problem solving techniques and inspiring in them a lifelong love for mathematics. Founded in 1998, the Berkeley Math Circle (BMC) is a pioneering model of a U.S. math circle, aspiring to prepare our best young minds for their future roles as mathematics leaders. Over the last decade, 50 instructors--from university professors to high school teachers to business tycoons--have shared their passion for mathematics by delivering more than 320 BMC sessions full of mathematical challenges and wonders. Based on a dozen of these sessions, this book encompasses a wide variety of enticing mathematical topics: from inversion in the plane to circle geometry; from combinatorics to Rubik's cube and abstract algebra; from number theory to mass point theory; from complex numbers to game theory via invariants and monovariants. The treatments of these subjects encompass every significant method of proof and emphasize ways of thinking and reasoning via 100 problem solving techniques. Also featured are 300 problems, ranging from beginner to intermediate level, with occasional peaks of advanced problems and even some open questions. The book presents possible paths to studying mathematics and inevitably falling in love with it, via teaching two important skills: thinking creatively while still ``obeying the rules,'' and making connections between problems, ideas, and theories. The book encourages you to apply the newly acquired knowledge to problems and guides you along the way, but rarely gives you ready answers. ``Learning from our own mistakes'' often occurs through discussions of non-proofs and common problem solving pitfalls. The reader has to commit to mastering the new theories and techniques by ``getting your hands dirty'' with the problems, going back and reviewing necessary problem solving techniques and theory, and persistently moving forward in the book. The mathematical world is huge: you'll never know everything, but you'll learn where to find things, how to connect and use them. The rewards will be substantial. In the interest of fostering a greater awareness and appreciation of mathematics and its connections to other disciplines and everyday life, MSRI and the AMS are publishing books in the Mathematical Circles Library series as a service to young people, their parents and teachers, and the mathematics profession.

This book gathers an in-depth collection of 45 selected papers presented at the Global Conference on Global Warming 2014 in Beijing, China, covering a broad variety of topics from the main principles of thermodynamics and their role in design, analysis, and the improvements in performance of energy systems to the potential impact of global warming on human health and wellbeing. Given energy production☐s role in contributing to global warming and climate change, this work provides solutions to global warming from the point of view of energy. Incorporating multi-disciplinary expertise and approaches, it provides a platform for the analysis of new developments in the area of global warming and climate change, as well as potential energy solutions including renewable energy, energy efficiency, energy storage, hydrogen production, CO2 capture and environmental impact assessment. The research and analysis presented herein will benefit international scientists, researchers, engineers, policymakers and all others with an interest in global warming and its potential solutions.

Topics in Nonlinear Dynamics, Volume 3, Proceedings of the 30th IMAC, A Conference and Exposition on Structural Dynamics, 2012, the third volume of six from the Conference, brings together 26 contributions to this important area of research and engineering. The collection presents early findings and case studies on fundamental and applied aspects of Structural Dynamics, including papers on: Application of Nonlinearities: Aerospace Structures Nonlinear Dynamics Effects Under Shock Loading Application of Nonlinearities: Vibration Reduction Nonlinear Dynamics: Testing Nonlinear Dynamics: Simulation Nonlinear Dynamics: Identification Nonlinear Dynamics: Localization

Reducing CO2 and other emissions from shipping

Marine Design XIII, Volume 2

A Second Step To Mathematical Olympiad Problems

Problems And Solutions In Mathematical Olympiad (High School 3)

The Code of Federal Regulations of the United States of America

The IMO Compendium

Activities of Transport Telematics

Since 2013, mathematicians from around the world have made dramatic progress on a problem in number theory that goes back centuries, the Twin Primes Conjecture, which asserts that there are infinitely many pairs of prime numbers that differ by 2 (for example, 17 and 19 is such a pair). This book describes two stories: that of the recent work on the Twin Primes Conjecture, and in parallel the related ideas around primes from the previous two thousand years of mathematics.

The TransNav 2013 Symposium held at the Gdynia Maritime University, Poland in June 2013 has brought together a wide range of participants from all over the world. The program has offered a variety of contributions, allowing to look at many aspects of the navigational safety from various different points of view. Topics presented and discussed at the Symposium were: navigation, safety at sea, sea transportation, education of navigators and simulator-based training, sea traffic engineering, ship's manoeuvrability, integrated systems, electronic charts systems, satellite, radio-navigation and anti-collision systems and many others. This book is part of a series of four volumes and provides an overview of advances in Marine Navigation and is addressed to scientists and professionals involved in research and development of navigation, safety of navigation and sea transportation.

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China.The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level.In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems. Detailed solutions are provided selectively. As a feature of the series, we also include some solutions generously offered by the members of Chinese national team and national training team.

Special edition of the Federal Register, containing a codification of documents of general applicability and future effect ... with ancillaries.

A Problem-Based Approach

Ferroelectric Thin Films IV: Volume 361

Proceedings of the 31st IMAC, A Conference on Structural Dynamics, 2013

Multiple Criteria Decision Analysis

Mathematical Olympiad in China (2007-2008)

Navigation and Vessel Inspection Circular

This book provides the mathematical tools and problem-solving experience needed to successfully compete in high-level problem solving competitions. Each section presents important background information and then provides a variety of worked examples and exercises to help bridge the gap between what the reader may already know and what is required for high-level competitions. Answers or sketches of the solutions are given for all exercises.

The International Mathematical Olympiad (IMO) is a competition for high school students. China has taken part in the IMO 21 times since 1985 and has won the top ranking for countries 14 times, with a multitude of golds for individual students. The six students China has sent every year were selected from 20 to 30 students among approximately 130 students who took part in the annual China Mathematical Competition during the winter months. This volume comprises a collection of original problems with solutions that China used to train their Olympiad team in the years from 2009 to 2010. Mathematical Olympiad problems with solutions for the years 2002-2008 appear in an earlier volume, Mathematical Olympiad in China.

This introductory text develops the reader's fundamental understanding of core principles and experimental aspects underlying the operation of nanoelectronic devices. The author makes a thorough and systematic presentation of electron transport in quantum-confined systems such as quantum dots, quantum wires, and quantum wells together with Landauer-Büttiker formalism and non-equilibrium Green's function approach. The coverage encompasses nanofabrication techniques and characterization tools followed by a comprehensive exposition of nanoelectronic devices including resonant tunneling diodes, nanoscale MOSFETs, carbon nanotube FETs, high-electron-mobility transistors, single-electron transistors, and heterostructure optoelectronic devices. The writing throughout is simple and straightforward, with clearly drawn illustrations and extensive self-study exercises for each chapter. Introduces the basic concepts underlying the operation of nanoelectronic devices. Offers a broad overview of the field, including state-of-the-art developments. Covers the relevant quantum and solid-state physics and nanoelectronic device principles. Written in lucid language with accessible mathematical treatment. Includes extensive end-of-chapter exercises and many insightful diagrams.

This volume provides a detailed legal analysis of the fourth pillar of the international maritime regulatory regime, the comprehensive Maritime Labour Convention, 2006, and its provisions to achieve decent work for seafarers and a level playing field for shipowners.

Marine Navigation and Safety of Sea Transportation

Proceedings of the 30th IMAC, A Conference on Structural Dynamics, 2012

4th Maple Conference, MC 2020, Waterloo, Ontario, Canada, November 2–6, 2020, Revised Selected Papers

Artificial Intelligence for COVID-19

Handbook of Differential Equations

Mathematical Olympiad in China

Automotive Embedded Systems Handbook