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Isotopes in the Water Cycle - Pradeep K. Aggarwal 2007-08-31
Environmental isotope and nuclear techniques provide unmatched insights into the processes governing the water cycle and its variability. This monograph presents state of the art applications and new developments of isotopes in hydrology, environmental disciplines and climate change studies. Coverage ranges from the assessment of groundwater resources in terms of recharge and flow regime to studies of the past and present global environmental and climate changes.
Second International Symposium on Magnetic

Suspension Technology, Part 1 - 1994

Environment Chronicles II - The Energy and Resources Institute 2018-05-18
This book covers, in a panoramic sweep, all the formidable environmental challenges that we face. It is a grim reminder of our disquieting environmental reality; yet the stories here inspire hope and provide examples of the building blocks for a sustainable world. Environment Chronicles II is the go-to resource for readers who want to know, in holistic terms, about what's ailing the environment as well as the solutions for a greener future. Backing up its claims with several unassailable facts, this book reinforces the urgency for sustainable development, particularly for conservation, resource-use efficiency, and waste minimization—all ideas that are now picking up the much-needed momentum.
Handbook of Magnetic Materials - Ekkes Bruck 2020-11-27
Handbook of Magnetic Materials, Volume 29, highlights new advances in the field, with this new volume presenting interesting chapters written by an international board of authors on topics such as spin-orbit torque. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the Handbook of Magnetic Materials series

Proceedings of the National Academy of Sciences of the United States of America - National Academy of Sciences (U.S.) 2006

Indian Journal of Pure & Applied Physics - 2004

The Physics of Semiconductor Devices - R. K. Sharma 2019-01-31
This book disseminates the current knowledge of semiconductor physics and its applications across the scientific community. It is based on a biennial workshop that provides the participating research groups with a

stimulating platform for interaction and collaboration with colleagues from the same scientific community. The book discusses the latest developments in the field of III-nitrides; materials & devices, compound semiconductors, VLSI technology, optoelectronics, sensors, photovoltaics, crystal growth, epitaxy and characterization, graphene and other 2D materials and organic semiconductors.

Thermal Characteristics and Convection in Nanofluids - Aditya Kumar 2021-01-04

This book covers synthesis, characterization, stability, heat transfer and applications of nanofluids. It includes different types of nanofluids, their preparation methods as well as its effects on the stability and thermophysical properties of nanofluids. It provides a discussion on the mechanism behind the change in the thermal properties of nanofluids and heat transfer behaviour. It presents the latest information and discussion on the preparation and advanced characterization of nanofluids. It also consists of stability analysis of nanofluids and discussion on why it is essential for the industrial application. The book provides a discussion on thermal boundary layer properties in convection. Future directions for heat transfer applications to make the production and application of nanofluids at industrial level are also discussed.

10 in One Study Package for CBSE Physics Class 11 with 3 Sample Papers - Disha Experts 2017-08-29

10 in ONE CBSE Study Package Physics class 11 with 3 Sample Papers is another innovative initiative from Disha Publication. This book provides the excellent approach to Master the subject. The book has 10 key ingredients that will help you achieve success. 1. Chapter Utility Score 2. Exhaustive theory based on the syllabus of NCERT books. 3. Concept maps for the bird's eye view of the chapter 4. NCERT Solutions: NCERT Exercise Questions. 5. VSA, SA

& LA Questions: Sufficient Practice Questions divided into VSA, SA & LA type. Numericals are also included wherever required. 6. HOTS/ Exemplar/ Value Based Questions: High Order Thinking Skill Based, Moral Value Based and Selective NCERT Exemplar Questions included.. 7. Chapter Test: A 24 marks test of 45 min. to assess your preparation in each chapter. 8. Important Formulas, terms and definitions 9. Full syllabus Sample Papers - 3 papers with detailed solutions designed exactly on the latest pattern of CBSE. 10.Complete Detailed Solutions of all the exercises

New Perspectives and Challenges in Econophysics and Sociophysics - Frédéric Abergel 2019-04-02

This book presents the latest perspectives and challenges within the interrelated fields of econophysics and sociophysics, which have emerged from the application of statistical physics to economics and sociology. Economic and financial markets appear to be in a permanent state of flux. Billions of agents interact with each other, giving rise to complex dynamics of economic quantities at the micro and macro levels. With the availability of huge data sets, researchers can address questions at a much more granular level than was previously possible. Fundamental questions regarding the aggregation of actions and information and the coordination, complexity, and evolution of economic and financial networks are currently receiving much attention in the econophysics research agenda. In parallel, the sociophysics literature has focused on large-scale social data and their interrelations. In this book, leading researchers from different communities – economists, sociologists, financial analysts, mathematicians, physicists, statisticians, and others – report on their recent work and their analyses of economic and social behavior.

Electromagnetic Materials - Lim Hock 2005-06-24

This volume comprises the

main ideas and the latest results in the study of electromagnetic materials, as presented at the Symposium on Electromagnetic Materials, ICMAT 2005. The high quality contributions reflect the principle aims of the conference: to provide an international forum for scientists and engineers to report their most recent research findings, to exchange ideas and information, and to nuture and establish research ties. Electromagnetic materials have both civilian and defence applications, such as novel antenna designs, protection against high power transients in densely packed printed circuits, and special frequency response or polarization response to meet component or system specifications. An in-depth understanding of the responses of materials to electromagnetic waves may even enable us to design and fabricate materials with properties not found in nature. Contents: Metamaterials: From Averaging to Detailed Electrodynamic Description (A N Lagarkov & V N Kissel)Electromagnetic Field Energy Density in Dispersive and Lossy Metamaterials (S A Tretyakov)Electromagnetic Metamaterials over the Whole THz Range — Achievements and Perspectives (H O Moser et al.)Superlens as Matching Device (V G Veselago)Theory of Negative Refraction and Left-Handed Metamaterials (LHM) (J A Kong et al.)Thin Ferromagnetic Film-Based Two-Dimensional Magnonic Crystals (S A Nikitov et al.)Giga-Hertz Conducted Noise Suppressors of Ferrite Films Prepared from Aqueous Solution (M Abe et al.)Recent Developments in the Field of Frequency/E-Field Agile Microwave Electronics (FAME) (A S Bhalla)Tunable Microwave Ceramic Thick Films (X Yao)Sculptured Thin Films (A Lakhtakia)Recent Advances in Microwave Magnetic Materials (O Acher)Active Absorber Research at The University of Sheffield (A Tennant & B Chambers)Correcting for Imperfections in the Experimental Characterization

of Dielectric Media for High-Precision Metrology (L R Arnaut)and other papers Readership: Materials engineers and electrical & electronic engineers. Keywords:Electromagnetics;Materials Science;Composite Materials;Dielectric Materials;Ferrite Materials;MetamaterialsKey Features:A collection of latest research results in electromagnetic materialsInvited speakers are renowned experts in their research fieldsEach paper focuses on a specific issue of interest

Physics Lab Manual Class XII | According to the latest CBSE syllabus and other State Boards following the CBSE curriculum - Mr. Rohit Manglik 2022-08-01

With the NEP 2020 and expansion of research and knowledge has changed the face of education to a great extent. In the Modern times, education is not just constricted top the lecture method but also includes a practical knowledge of certain subjects. This way of education helps a student to grasp the basic concepts and principles. Thus, trying to break the stereotype that subjects like Physics, Chemistry and Biology means studying lengthy formulas, complex structures, and handling complicated instruments, we are trying to make education easy, fun, and enjoyable.

Thermal Energy - Yatish T. Shah 2018-01-12

The book details sources of thermal energy, methods of capture, and applications. It describes the basics of thermal energy, including measuring thermal energy, laws of thermodynamics that govern its use and transformation, modes of thermal energy, conventional processes, devices and materials, and the methods by which it is transferred. It covers 8 sources of thermal energy: combustion, fusion (solar) fission (nuclear), geothermal, microwave, plasma, waste heat, and thermal energy storage. In each case, the methods of production and capture and its

uses are described in detail. It also discusses novel processes and devices used to improve transfer and transformation processes.

Theory of Quantum Computation, Communication and Cryptography - Wim van Dam 2011-01-14

This book constitutes the thoroughly refereed post-conference proceedings of the 5th Conference on Theory of Quantum Computation, Communication, and Cryptography, TQC 2010, held in Leeds, UK, in April 2010. The 15 revised papers presented were carefully selected during two rounds of reviewing and improvement. Focussing on theoretical aspects of quantum computation, quantum communication, and quantum cryptography - part of a larger interdisciplinary field embedding information science in a quantum mechanical framework - the papers present current original research. Topics addressed include quantum algorithms, models of quantum computation, quantum complexity theory, simulation of quantum systems, quantum cryptography, quantum communication, quantum estimation and measurement, quantum noise, quantum coding theory, fault-tolerant quantum computing, and entanglement theory.

Electrical Measuring Instruments and Measurements - S.C. Bhargava 2012-12-27

This book, written for the benefit of engineering students and practicing engineers alike, is the culmination of the author's four decades of experience related to the subject of electrical measurements, comprising nearly 30 years of experimental research and more than 15 years of teaching at several engineering institutions. The unique feature of this book, apart from covering the syllabi of various universities, is the style of presentation of all important aspects and features of electrical measurements, with neatly and clearly drawn figures, diagrams and colour and b/w photos that illustrate

details of instruments among other things, making the text easy to follow and comprehend. Enhancing the chapters are interspersed explanatory comments and, where necessary, footnotes to help better understanding of the chapter contents. Also, each chapter begins with a "recall" to link the subject matter with the related science or phenomenon and fundamental background. The first few chapters of the book comprise "Units, Dimensions and Standards"; "Electricity, Magnetism and Electromagnetism" and "Network Analysis". These topics form the basics of electrical measurements and provide a better understanding of the main topics discussed in later chapters. The last two chapters represent valuable assets of the book, and relate to (a) "Magnetic Measurements", describing many unique features not easily available elsewhere, a good study of which is essential for the design and development of most electric equipment – from motors to transformers and alternators, and (b) "Measurement of Non-electrical Quantities", dealing extensively with the measuring techniques of a number of variables that constitute an important requirement of engineering measurement practices. The book is supplemented by ten appendices covering various aspects dealing with the art and science of electrical measurement and of relevance to some of the topics in main chapters. Other useful features of the book include an elaborate chapter-by-chapter list of symbols, worked examples, exercises and quiz questions at the end of each chapter, and extensive authors' and subject index. This book will be of interest to all students taking courses in electrical measurements as a part of a B.Tech. in electrical engineering. Professionals in the field of electrical engineering will also find the book of use.

Introduction to Mechanical Designs & it's Applications -

Prof. Madhu B P
The book "Introduction to Mechanical Designs & it's Applications" is designed to be a supplemental study material for young students to learn basics of science including Human Civilization and Materials, Moving Things, People and Ideas, Natural Resources, Basic of Agriculture, Fibers and Plastics, Combustion and Flames, Forces and Pressure, Environmental Pollution and Control, Light and Sound, Basic of Mechanics

Advances In The Chemistry And Physics Of Materials: Overview Of Selected Topics - Subi J George 2019-10-17
Advances in the Chemistry and Physics of Materials is a compilation of topics on the recent developments in the areas of Materials Science.Materials Science has been a subject of major interest which has garnered significant attention over the years. Chemists and physicists have contributed extensively to this frontier research area and their synergistic efforts have led to the discovery of many new, exciting materials involving novel functions. In the light of the growing importance of the field of Materials Science, and owing to the fact that it is a subject that holds a lot of promise, internationally renowned Materials Chemist Prof. C.N.R Rao along with his colleagues at the School of Advanced Materials, at JNCASR, have compiled the contents of this book to highlight and showcase the emerging trends in materials science.It touches upon topics spanning over nanomaterials and various other classes of energy materials for harvesting, storage and conversion. The relatively new and exciting range of materials such as supramolecular, soft and biomaterials have been introduced and elucidated, in the book. Special emphasis has been laid on the synthesis, phenomena and characterization of these kinds of materials. Theoretical and Computational Chemistry has played an important role in the

growth of Materials Science as a discipline, and the book covers a special topical session on the theoretical efforts in materials research.The book, packed with theory and practical aspects in a crisp and concise manner, aims to take the reader on an intense scientific expedition. The compilation provides an insight into the chemistry and physics of materials and presents up-to-date status reports which would, undoubtedly, be useful to practitioners, teachers and students.

Microscale Flow and Heat Transfer - Amit Agrawal 2019-05-25

This book covers concepts and the latest developments on microscale flow and heat transfer phenomena involving a gas. The book is organised in two parts: the first part focuses on the fluid flow and heat transfer characteristics of gaseous slip flows. The second part presents modelling of such flows using higher-order continuum transport equations. The Navier-Stokes equations based solution is provided to various problems in the slip regime. Several interesting characteristics of slip flows along with useful empirical correlations are documented in the first part of the book. The examples bring out the failure of the conventional equations to adequately describe various phenomena at the microscale. Thereby the readers are introduced to higher order continuum transport (Burnett and Grad) equations, which can potentially overcome these limitations. A clear and easy to follow step by step derivation of the Burnett and Grad equations (superset of the Navier-Stokes equations) is provided in the second part of the book. Analytical solution of these equations, the latest developments in the field, along with scope for future work in this area are also brought out. Presents characteristics of flow in the slip and transition regimes for a clear understanding of microscale flow problems; Provides a derivation of Navier-Stokes equations from microscopic viewpoint;

Features a clear and easy to follow step-by-step approach to derive Burnett and Grad equations; Describes a complete compilation of few known exact solutions of the Burnett and Grad equations, along with a discussion of the solution aided with plots; Introduces the variants of the Navier-Stokes, Burnett and Grad equations, including the recently proposed Onsager-Burnett and O13 moment equations.

Indian Journal of Radio & Space Physics - 1992

Japanese Journal of Applied Physics - 2005

Pradeep's Standard Oxford Dictionary - 1982

Nonlinearity in Condensed Matter - Alan R. Bishop 2012-12-06

The Sixth Annual Conference of the Center for Nonlinear Studies at the Los Alamos National Laboratory was held May 5-9, 1986, on the topic "Nonlinearity in Condensed Matter: Lessons from the Past and Prospects for the Future. " As conference organizers, we felt that the study of non linear phenomena in condensed matter had matured to the point where it made sense to take stock of the numerous lessons to be learned from a variety of contexts where nonlinearity plays a fundamental role and to evaluate the prospects for the growth of this general discipline. The successful 1978 Oxford Symposium on nonlinear (soliton) struc ture and dynamics in condensed matter (Springer Ser. Solid-State Sci. , Vol. 8) was held at a time when the ubiquity of solitons was just begin ning to be appreciated by the condensed matter community; in subsequent years the soliton paradigm has provided a rather useful framework for in vestigating a large number of phenomena, particularly in low-dimensional systems. Nevertheless, we felt that the importance of nonlinearity in wider arenas than "solitonics" merited a significant expansion in the scope of the conference

over that of the 1978 symposium. Indeed, many of the lessons are quite general and their potential for cross-fertilization of otherwise poorly connected disciplines was certainly one of the prime motivations for this conference. Thus, while these proceedings contain many contribu tions pertaining to soliton behavior in different contexts, the reader will find much more as well, particularly in the later chapters.

Physics Lab Manual Class XI | According to the latest CBSE syllabus and other State Boards following the CBSE curriculum - Mr. Rohit Manglik 2022-08-04

With the NEP 2020 and expansion of research and knowledge has changed the face of education to a great extent. In the Modern times, education is not just constricted top the lecture method but also includes a practical knowledge of certain subjects. This way of education helps a student to grasp the basic concepts and principles. Thus, trying to break the stereotype that subjects like Physics, Chemistry and Biology means studying lengthy formulas, complex structures, and handling complicated instruments, we are trying to make education easy, fun, and enjoyable.

Luminescent Metal Nanoclusters - Sabu Thomas 2022-07-01

Luminescent Metal Nanoclusters: Synthesis, Characterization, and Applications provides a comprehensive accounting of various protocols used for the synthesis of metal nanoclusters, their characterization techniques, toxicity evaluation and various applications and future prospects. The book provides detailed experimental routes, along with mechanisms on the formation of benign metallic clusters using biomaterials and a comprehensive review regarding the preparation, properties and prospective applications of these nano clusters in various fields, including therapeutic applications. Various methods

to protect nanocluster materials to increase their stability are emphasized, including the incorporation of ligands (protein, small molecule, DNA, thiols). This book addresses a gap in the current literature by bringing together the preparation, characterization and applications of all the possible types of reported metal nanoclusters and their hybrids. It is suitable for materials scientists and engineers in academia and those working in research and development in industry. It may also be of interest to those working in the interdisciplinary nanotechnology community, such as physical chemists. Covers the most relevant material categories of luminescent nanoclusters such as metal nanoclusters, nano composites and alloy nanoclusters Provides a comprehensive overview of the various available methods used for the protection of nanoclusters Discusses the latest advances and future opportunities in addressing challenges in producing benign nanomaterials such as toxicity and stability

Optical Fiber-based Plasmonic Biosensors - Santosh Kumar 2022-12-30

This book discusses the history, physics, fundamental principles, sensing technologies, and characterization of plasmonic phenomenon-based fiber-optic biosensors, using optic-plasmonic sensors as a case study. It describes the plasmonic phenomenon and its application in optical fiber-based sensing, presented based on properties and usage of different nanomaterials spread across nine chapters. Content covers advances in nanomaterials, structural designing, and their scope in biomedical applications. Future developments of biosensing devices and related articulate methods are also described. Features: Gives a comprehensive view on the nanomaterials used in plasmonic optical fiber biosensors Includes synthesis, characterization, and usage for

detection of different analytes Discusses trends in the design of wavelength-based optical fiber sensors Reviews micro- and nanostructured biosensing devices Explores application of plasmonic sensors in the biosensing field This book is aimed at researchers and graduate students in Optical Communications, Biomedical Engineering, Optics, Sensors, Instrumentation, and Measurement.

Mechanical Engineering Series - 1996

Advances in Metrology and Measurement of Engineering Surfaces - Chander Prakash 2020-06-15

This book presents the select proceedings of the International Conference on Functional Material, Manufacturing and Performances (ICFMMP) 2019. The book covers broad aspects of several topics involved in the metrology and measurement of engineering surfaces and their implementation in automotive, bio-manufacturing, chemicals, electronics, energy, construction materials, and other engineering applications. The contents focus on cutting-edge instruments, methods and standards in the field of metrology and mechanical properties of advanced materials. Given the scope of the topics, this book can be useful for students, researchers and professionals interested in the measurement of surfaces, and the applications thereof.

Problems In Physics Mechanics JEE Main and Advanced - Pradeep Beniwal 2021-04-17

1. The book is prepared for the problem solving in Physics 2. It is divided into 13 chapters 3. Each chapter is divided into 3 levels of preparation 4. At the end of the each chapter cumulative exercises for JEE Main & Advanced for practice A common phrase among JEE Aspirants that chemistry is the most scoring subject, but the problems asked in JEE Exams are not directly related but they are based on multiple applications. Introducing the all new edition of “Problem

Physical Physics JEE Main & Advanced Volume – 1" which is designed to develop the use of the concepts of chemistry in solving the diversified problems as asked in JEE. The book divides the syllabus into 8 chapters and each chapter has been topically divided in quick theory, different types of Solved Examination. At the end of each chapter there are 3 Levels; where Level 1 'Starter Level', Level 2 'JEE Main Level' and Level 3 'JEE Advanced Level' making a solid preparation. Detailed and explanatory solutions provided to all the questions for the better understanding. TOC Vectors, Calculus in Physics, Units & Dimensions, Significant Figures & Errors in Management, Rectilinear Motion, Projectile Motion, Relative Motion, Kinematics Calculus, Kinematics Graphs, Newton's Laws of Motion, Friction, Work Energy & Power, Circular Motion.

Handbook of Research on Nanoelectronic Sensor Modeling and Applications - Ahmadi, Mohammad Taghi 2016-09-20

Nanoelectronics are a diverse set of materials and devices that are so small that quantum mechanics need to be applied to their function. The possibilities these devices present outweigh the difficulties associated with their development, as biosensors and similar devices have the potential to vastly improve our technological reach. The Handbook of Research on Nanoelectronic Sensor Modeling and Applications begins with an introduction of the fundamental concepts of nanoelectronic sensors, then proceeds to outline in great detail the concepts of nanoscale device modeling and nanoquantum fundamentals. Recent advances in the field such as graphene technology are discussed at length in this comprehensive handbook, ideal for electrical engineers, advanced engineering students, researchers, and academics.

Nanofluids - Sarit K. Das 2007-12-04

Introduction to nanofluids--their properties, synthesis, characterization, and applications Nanofluids are attracting a great deal of interest with their enormous potential to provide enhanced performance properties, particularly with respect to heat transfer. In response, this text takes you on a complete journey into the science and technology of nanofluids. The authors cover both the chemical and physical methods for synthesizing nanofluids, explaining the techniques for creating a stable suspension of nanoparticles. You get an overview of the existing models and experimental techniques used in studying nanofluids, alongside discussions of the challenges and problems associated with some of these models. Next, the authors set forth and explain the heat transfer applications of nanofluids, including microelectronics, fuel cells, and hybrid-powered engines. You also get an introduction to possible future applications in large-scale cooling and biomedicine. This book is the work of leading pioneers in the field, one of whom holds the first U.S. patent for nanofluids. They have combined their own first-hand knowledge with a thorough review of theliterature. Among the key topics are: * Synthesis of nanofluids, including dispersion techniques and characterization methods * Thermal conductivity and thermo-physical properties * Theoretical models and experimental techniques * Heat transfer applications in microelectronics, fuel cells, and vehicle engines This text is written for researchers in any branch of science and technology, without any prerequisite.It therefore includes some basic information describing conduction, convection, and boiling of nanofluids for those readers who may not have adequate background in these areas. Regardless of your background, you'll learn to develop nanofluids not only as coolants, but also for a host ofnew applications on the

horizon.

International Conference on Fiber Optics and Photonics. - 2000

Microscale and Nanoscale Heat Transfer - Mourad Rebay 2016-01-06

Microscale and Nanoscale Heat Transfer: Analysis, Design, and Applications features contributions from prominent researchers in the field of micro- and nanoscale heat transfer and associated technologies and offers a complete understanding of thermal transport in nano-materials and devices. Nanofluids can be used as working fluids in thermal systems; the thermal conductivity of heat transfer fluids can be increased by adding nanoparticles in fluids. This book provides details of experimental and theoretical investigations made on nanofluids for use in the biomechanical and aerospace industries. It examines the use of nanofluids in improving heat transfer rates, covers the numerical approaches for computational fluid dynamics (CFD) simulation of nanofluids, and reviews the experimental results of commonly used nanofluids dispersed in both spherical and nonspherical nanoparticles. It also focuses on current and developing applications of microscale and nanoscale convective heat transfer. In addition, the book covers a wide range of analysis that includes: Solid–liquid interface phonon transfer at the molecular level The validity of the continuum hypothesis and Fourier law in nanochannels Conventional methods of using molecular dynamics (MD) for heat transport problems The molecular dynamics approach to calculate interfacial thermal resistance (ITR) A review of experimental results in the field of heat pipes and two-phase flows in thermosyphons Microscale convective heat transfer with gaseous flow in ducts The application of the lattice Boltzmann method for thermal microflows A numerical method for resolving the problem of subcooled

convective boiling flows in microchannel heat sinks Two-phase boiling flow and condensation heat transfer in mini/micro channels, and more Microscale and Nanoscale Heat Transfer: Analysis, Design, and Applications addresses the need for thermal packaging and management for use in cooling electronics and serves as a resource for researchers, academicians, engineers, and other professionals working in the area of heat transfer, microscale and nanoscale science and engineering, and related industries.
Plane Trigonometry - Sidney Luxton Loney 1893

American Journal of Physics - 1989

Indian Science Abstracts - 2011-10

Extended Non-Equilibrium Thermodynamics - Hatim Machrafi 2019-02-21
Extended Non-Equilibrium Thermodynamics provides powerful tools departing not from empirical or statistical considerations but from fundamental thermodynamic laws, proposing final solutions that are readily usable and recognizable for students, researchers and industry. The book deals with methods that allow combining easily the present theory with other fields of science, such as fluid and solid mechanics, heat and mass transfer processes, electricity and thermoelectricity, and so on. Not only are such combinations facilitated, but they are incorporated into the developments in such a way that they become part of the theory. This book aims at providing for a systematic presentation of Extended Non-Equilibrium Thermodynamics in nanosystems with a high degree of applicability. Furthermore, the book deals with how physical properties of systems behave as a function of their size. Moreover, it provides for a systematic approach to understand the behavior of thermal, electrical, thermoelectric, photovoltaic and nanofluid properties in nanosystems. Experimental

results are used to validate the theory, the comparison is analysed, justified and discussed, and the theory is then again used to understand better experimental observations. The new developments in this book, being recognizable in relation with familiar concepts, should make it appealing for academics and researchers to teach and apply and graduate students to use. The text in this book is intended to bring attention to how the theory can be applied to real-life applications in nanoscaled environments. Case studies, and applications of theories, are explored including thereby nanoporous systems, solar panels, nanomedicine drug permeation and properties of nanoporous scaffolds. Explores new generalized thermodynamic models Provides introductory context of Extended Non-Equilibrium Thermodynamics within classical thermodynamics, theoretical fundamentals and several applications in nanosystems Provides for a systematic approach to understand the behavior of thermal, electric, thermoelectric and viscous properties as a function of several parameters in nanosystems Includes reflections to encourage the reader to think further and put the information into context Examines future developments of new constitutive equations and theories and places them in the framework of real-life applications in the energetic and medical sectors, such as photovoltaic and thermoelectric devices, nanoporous media, drug delivery and scaffolds

Advances in Imaging and Electron Physics - 2014-10-31

Advances in Imaging & Electron Physics merges two long-running serials—Advances in Electronics & Electron Physics and Advances in Optical & Electron Microscopy. The series features extended articles on the physics of electron devices (especially semiconductor devices), particle optics at high and low energies, microlithography,

image science and digital image processing, electromagnetic wave propagation, electron microscopy, and the computing methods used in all these domains. Contributions from leading authorities Informs and updates on all the latest developments in the field **Tiet.com-2000.** - Surekha Bhanot 2000

Rock Fragmentation by Blasting - Pradeep K. Singh 2012-11-05
Rock Fragmentation by Blasting contains the papers presented at the 10th International Symposium on Rock Fragmentation by Blasting (New Delhi, India, 26-29 November 2012), and represents the most advanced forum on blasting science and technology. The contributions cover all major recent advancements in blasting and fragmentation, from realistic tre

Aquananotechnology - Kamel A. Abd-Elsalam 2020-12-01
Aquananotechnology: Applications of Nanomaterials for Water Purification focuses on the impacts of, and opportunities for, the application of nanotechnology to enhance water quality and the societal concerns surrounding the widespread use of nanotechnology in the water arena. Sections cover the use of nano-sensors for the detection of water pollutants, the control of waterborne pathogens, and the use of nano-biochar coal fly composites for phytoremdtions wastewater pollutants. In addition, the book explores the uses of nanoadsorbents for heavy metals, dyes, Arsenic, pesticides, and water/wastewater remediation and decontamination of water from xenobiotics, bionanocomposites, metal oxides, silver, zinc nanoparticles, and carbon-based nanomaterials for wastewater treatment. In addition, the book covers the use of zerovalent iron nanomaterials and nanostructured mesoporous silica for water purification, along with nano-hydrogels to

increase water efficiency and conservation. Finally, the socioeconomic impacts and risks of aquananotechnology in ecosystems are discussed. This book provides a detailed description of the ecological applications of nanomaterials in aquatic environments, offering a cogent analysis of both major applications and challenges. Shows how a range of nanomaterial types are being used for ecological applications in aquatic environments Explores the effects different types of nanomaterials have on a variety of ecosystems Assesses the major challenges of using nanotechnology to improve water quality on a mass scale