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Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012) - Jagdish C. Bansal
2012-12-04

The book is a collection of high quality peer reviewed research papers presented in Seventh International Conference on Bio-Inspired Computing (BIC-TA 2012) held at ABV-IIITM Gwalior, India. These research papers provide the latest developments in the broad area of "Computational Intelligence". The book discusses wide variety of industrial, engineering and scientific applications of nature/bio-inspired computing and presents invited papers from the inventors/originators of novel computational techniques.

Modern Engineering Physics - A S Vasudeva 2012-07

The book in its present form is due to my interaction with the students for quite a long time. It had been my long-cherished desire to write a book covering most of the topics that form the syllabi of the Engineering and Science students at the degree level. Many students, although able to understand the various topics of the books, may not be able to put their knowledge to use. For this purpose a number of questions and problems are given at the end of each chapter.

Multifunctional Oxide Heterostructures - Evgeny Y. Tsymbal
2012-08-30

This book is devoted to the rapidly developing field of oxide thin-films

and heterostructures. Oxide materials combined with atomic-scale precision in a heterostructure exhibit an abundance of macroscopic physical properties involving the strong coupling between the electronic, spin, and structural degrees of freedom, and the interplay between magnetism, ferroelectricity, and conductivity. Recent advances in thin-film deposition and characterization techniques made possible the experimental realization of such oxide heterostructures, promising novel functionalities and device concepts. The book consists of chapters on some of the key innovations in the field over recent years, including strongly correlated oxide heterostructures, magnetoelectric coupling and multiferroic materials, thermoelectric phenomena, and two-dimensional electron gases at oxide interfaces. The book covers the core principles, describes experimental approaches to fabricate and characterize oxide heterostructures, demonstrates new functional properties of these materials, and provides an overview of novel applications.

Japanese Journal of Applied Physics - 2000

Proceedings of the ASME Materials Division, 2002 - 2002

Annotation These 50 papers from the November 2002 conference in New Orleans represent recent advances in materials processing science, damage mechanics, and the mechanics of granular materials. They also discuss: electric and magnetic phenomena in micro and nano-scale

systems; design and manufacture of composites; and, the processing, characterization, and modeling of novel nanoengineering and surface engineered materials. Annotation (c)2003 Book News, Inc., Portland, OR (booknews.com).

Engineering Physics - Hitendra K. Malik 2009

Polymers for Packaging Applications - Sajid Alavi 2014-09-12

This book focuses on food, non-food, and industrial packaging applications of polymers, blends, nanostructured materials, macro, micro and nanocomposites, and renewable and biodegradable materials. It details physical, thermal, and barrier properties as well as sustainability, recycling, and regulatory issues. The book emphasizes interdis *Proceedings of the ASME Materials Division* - 2002

Introduction to Modern Solid State Physics - Yuri M. Galperin 2014-09-11

So, we see that in the acoustic mode all the atoms move next to synchronously, like in an acoustic wave in homogeneous medium. Contrary, in the optical mode; the gravity center remains unperturbed. In an ionic crystal such a vibration produces alternating dipole moment. Consequently, the mode is optically active

A Textbook of Engineering Physics - M N Avadhanulu 1992

A textbook of Engineering Physics is written with two distinct objectives: to provide a single source of information for engineering undergraduates of different specializations and provide them a solid base in physics. Successive editions of the book incorporated topics as required by students pursuing their studies in various universities. In this new edition the contents are fine-tuned, modernized and updated at various stages.

Engineering Physics - I (U.P. Technical University, Lucknow) - Dr. A.K. Katiyar 2010

Engineering Physics Practical -

Optical Fiber Communications - John M. Senior 2009

This text succeeds in giving a practical introduction to the fundamentals, problems and techniques of the design and utilisation of optical fiber systems. This edition retains all core features, while incorporating recent improvements and developments in the field.

Transport in Nanostructures - David K. Ferry 2009-08-20

The advent of semiconductor structures whose characteristic dimensions are smaller than the mean free path of carriers has led to the development of novel devices, and advances in theoretical understanding of mesoscopic systems or nanostructures. This book has been thoroughly revised and provides a much-needed update on the very latest experimental research into mesoscopic devices and develops a detailed theoretical framework for understanding their behaviour. Beginning with the key observable phenomena in nanostructures, the authors describe quantum confined systems, transmission in nanostructures, quantum dots, and single electron phenomena. Separate chapters are devoted to interference in diffusive transport, temperature decay of fluctuations, and non-equilibrium transport and nanodevices. Throughout the book, the authors interweave experimental results with the appropriate theoretical formalism. The book will be of great interest to graduate students taking courses in mesoscopic physics or nanoelectronics, and researchers working on semiconductor nanostructures.

OBJECTIVE Computer Awareness - Arihant Experts 2019-06-04

Computer Awareness is an important section for various exams of the country including IBPS, SBI (Bank PO & Clerk), SSC, Railway, Police and many other state competitive exams. Hence, it comes as no surprise that having strong knowledge about computer plays an important role in getting success in exams. This book "Learn, Revise and Practice Computer Awareness" once again brings in the complete study material for Computer knowledge at one place for you. Designed on the basis of close considerations of various examinations' syllabus and pattern, it serves as the most suitable read to understand computer awareness. It includes Chapterwise theories, Question Bank with each chapter, Chapterwise Past Years' Questions and 5 Practice Sets for Complete

Practice. Abbreviations and Glossary are also given at the end. Providing to-the-point, chapterwise study supported by definitions, examples, exercises and more, it promotes the best learning along with revision and practice to perform well in exams. TOC Introduction to Computer, Computer Architecture, Computer Hardware, Computer Memory, Data Representation, Computer Software, Operating System, Programming Concepts, Microsoft Windows, Microsoft Office, Database Concepts, Internet and its Services, Computer Security, Practice Sets (1-5), Abbreviations, Glossary

Advanced Micro- and Nano-manufacturing Technologies - Shrikrishna Nandkishor Joshi 2021-10-01

This volume focuses on the fundamentals and advancements in micro and nanomanufacturing technologies applied in the biomedical and biochemical domain. The contents of this volume provide comprehensive coverage of the physical principles of advanced manufacturing technologies and the know-how of their applications in the fabrication of biomedical devices and systems. The book begins by documenting the journey of miniaturization and micro-and nano-fabrication. It then delves into the fundamentals of various advanced technologies such as micro-wire moulding, 3D printing, lithography, imprinting, direct laser machining, and laser-induced plasma-assisted machining. It also covers laser-based technologies which are a promising option due to their flexibility, ease in control and application, high precision, and availability. These technologies can be employed to process several materials such as glass, polymers: polycarbonate, polydimethylsiloxane, polymethylmethacrylate, and metals such as stainless steel, which are commonly used in the fabrication of biomedical devices, such as microfluidic technology, optical and fiber-optic sensors, and electro-chemical bio-sensors. It also discusses advancements in various MEMS/NEMS based technologies and their applications in energy conversion and storage devices. The chapters are written by experts from the fields of micro- and nano-manufacturing, materials engineering, nano-biotechnology, and end-users such as clinicians, engineers, academicians of interdisciplinary background. This book will be a useful

guide for academia and industry alike.

Physics for Engineers - M. R. Srinivasan 2009

Image Processing Using Pulse-Coupled Neural Networks - Thomas Lindblad 2005-12-05

This is the first book to explain and demonstrate the tremendous ability of Pulse-Coupled Neural Networks (PCNNs) when applied to the field of image processing. PCNNs and their derivatives are biologically inspired models that are powerful tools for extracting texture, segments, and edges from images. As these attributes form the foundations of most image processing tasks, the use of PCNNs facilitates traditional tasks such as recognition, foveation, and image fusion. PCNN technology has also paved the way for new image processing techniques such as object isolation, spiral image fusion, image signatures, and content-based image searches. This volume contains examples of several image processing applications, as well as a review of hardware implementations.

Laser Fundamentals - 2005-10-24

The three volumes VIII/1A, B, C document the state of the art of "Laser Physics and Applications". Scientific trends and related technological aspects are considered by compiling results and conclusions from phenomenology, observation and experience. Reliable data, physical fundamentals and detailed references are presented. In the recent decades the laser beam source matured to a universal tool common to scientific research as well as to industrial use. Today a technical goal is the generation of optical power towards shorter wavelengths, shorter pulses and higher power for application in science and industry. Tailoring the optical energy in wavelength, space and time is a requirement for the investigation of laser-induced processes, i.e. excitation, non-linear amplification, storage of optical energy, etc. According to the actual trends in laser research and development, Vol. VIII/1 is split into three parts: Vol. VIII/1A with its two subvolumes 1A1 and 1A2 covers laser fundamentals, Vol. VIII/1B deals with laser systems and Vol. VIII/1C gives an overview on laser applications.

Methods of Multivariate Analysis - Alvin C. Rencher 2003-04-14

Amstat News asked three review editors to rate their top five favorite books in the September 2003 issue. Methods of Multivariate Analysis was among those chosen. When measuring several variables on a complex experimental unit, it is often necessary to analyze the variables simultaneously, rather than isolate them and consider them individually. Multivariate analysis enables researchers to explore the joint performance of such variables and to determine the effect of each variable in the presence of the others. The Second Edition of Alvin Rencher's Methods of Multivariate Analysis provides students of all statistical backgrounds with both the fundamental and more sophisticated skills necessary to master the discipline. To illustrate multivariate applications, the author provides examples and exercises based on fifty-nine real data sets from a wide variety of scientific fields. Rencher takes a "methods" approach to his subject, with an emphasis on how students and practitioners can employ multivariate analysis in real-life situations. The Second Edition contains revised and updated chapters from the critically acclaimed First Edition as well as brand-new chapters on: Cluster analysis Multidimensional scaling Correspondence analysis Biplots Each chapter contains exercises, with corresponding answers and hints in the appendix, providing students the opportunity to test and extend their understanding of the subject. Methods of Multivariate Analysis provides an authoritative reference for statistics students as well as for practicing scientists and clinicians.

Functional Metal Oxides - Satishchandra Balkrishna Ogale 2013-11-08
 Functional oxides are used both as insulators and metallic conductors in key applications across all industrial sectors. This makes them attractive candidates in modern technology? they make solar cells cheaper, computers more efficient and medical instrumentation more sensitive. Based on recent research, experts in the field describe novel materials, their properties and applications for energy systems, semiconductors, electronics, catalysts and thin films. This monograph is divided into 6 parts which allows the reader to find their topic of interest quickly and efficiently. * Magnetic Oxides * Dopants, Defects and Ferromagnetism in Metal Oxides * Ferroelectrics * Multiferroics * Interfaces and Magnetism

* Devices and Applications This book is a valuable asset to materials scientists, solid state chemists, solid state physicists, as well as engineers in the electric and automotive industries.

Modern Condensed Matter Physics - Steven M. Girvin 2019-02-28

Comprehensive and accessible coverage from the basics to advanced topics in modern quantum condensed matter physics.

Textbook of Applied Physics - A. K. Jha 2013-12-30

Intended to serve as a textbook of Applied Physics / Physics paper of the undergraduate students of B.E., B.Tech and B.Sc. Exhaustive treatment of topics in optics, mechanics, relativistic mechanics, laser, optical fibres and holography have been included.

Engineering Physics - D. K. Bhattacharya 2015-08-20

Engineering Physics is designed as a textbook for first year undergraduate engineering students. The book comprehensively covers all relevant and important topics in a simple and lucid manner. It explains the principles as well as the applications of a given topic using numerous solved examples and self-explanatory figures.

Relativistic Quantum Mechanics and Field Theory - Franz Gross 2008-07-11

An accessible, comprehensive reference to modern quantum mechanics and field theory. In surveying available books on advanced quantum mechanics and field theory, Franz Gross determined that while established books were outdated, newer titles tended to focus on recent developments and disregard the basics. Relativistic Quantum Mechanics and Field Theory fills this striking gap in the field. With a strong emphasis on applications to practical problems as well as calculations, Dr. Gross provides complete, up-to-date coverage of both elementary and advanced topics essential for a well-rounded understanding of the field. Developing the material at a level accessible even to newcomers to quantum mechanics, the book begins with topics that every physicist should know-quantization of the electromagnetic field, relativistic one body wave equations, and the theoretical explanation of atomic decay. Subsequent chapters prepare readers for advanced work, covering such major topics as gauge theories, path integral techniques, spontaneous

symmetry breaking, and an introduction to QCD, chiral symmetry, and the Standard Model. A special chapter is devoted to relativistic bound state wave equations-an important topic that is often overlooked in other books. Clear and concise throughout, Relativistic Quantum Mechanics and Field Theory boasts examples from atomic and nuclear physics as well as particle physics, and includes appendices with background material. It is an essential reference for anyone working in quantum mechanics today.

Engineering Research Centres - 1995

Surface Water Records of Georgia - 1979

Engineering Physics - II - 2013

ICOL-2019 - Kehar Singh 2021-04-12

This book presents peer-reviewed articles from the International Conference on Optics and Electro-optics, ICOL-2019, held at Dehradun in India. It brings together leading researchers and professionals in the field of optics/optical engineering/optical materials and provides a platform to present and establish collaborations in this important area, with the theme "Trends in Electro-optics Instrumentation for Strategic Applications". Topics covered but not limited to are Optical Engineering, Optical Thin Films, Optical Materials, IR Sensors, Image Processing & Systems, Photonic Band Gap Materials, Adaptive Optics, Optical Image Processing & Holography, Lasers, Fiber Lasers & its Applications, Diffractive Optics, Innovative packaging of Optical Systems, Nanophotonics Devices and Applications, Optical Interferometry & Metrology, Terahertz, Millimeter Wave & Microwave Photonics, Fiber, Integrated & Nonlinear Optics and Optics and Electro-optics for Strategic Applications.

International Aerospace Abstracts - 1987

World Guide to Universities - Internationales Universitäts-Handbuch - 1976

A Textbook of Engineering Mathematics (For First Year ,Anna University) - N.P. Bali 2009

Applied Physics for Engineers - Mehta Neeraj 2011-07-30

This book is intended as a textbook for the first-year undergraduate engineering students of all disciplines. Key features: simple and clear diagrams throughout the book help students in understanding the concepts clearly; numerous in-chapter solved problems, chapter-end unsolved problems (with answers) and review questions assist students in assimilating the theory comprehensively; a large number of objective type questions at the end of each chapter help students in testing their knowledge of the theory.

Physics Briefs - 1992

Internationales Universitäts-Handbuch - Michael Zils 1976

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.

Nanoscale Ferroelectrics and Multiferroics - Miguel Alguero 2016-03-24

This two volume set reviews the key issues in processing and characterization of nanoscale ferroelectrics and multiferroics, and provides a comprehensive description of their properties, with an emphasis in differentiating size effects of extrinsic ones like boundary or interface effects. Recently described nanoscale novel phenomena are also addressed. Organized into three parts it addresses key issues in

processing (nanostructuring), characterization (of the nanostructured materials) and nanoscale effects. Taking full advantage of the synergies between nanoscale ferroelectrics and multiferroics, the text covers materials nanostructured at all levels, from ceramic technologies like ferroelectric nanopowders, bulk nanostructured ceramics and thick films, and magnetoelectric nanocomposites, to thin films, either polycrystalline layer heterostructures or epitaxial systems, and to nanoscale free standing objects with specific geometries, such as nanowires and tubes at different levels of development. This set is developed from the high level European scientific knowledge platform built within the COST (European Cooperation in Science and Technology) Action on Single and multiphase ferroics and multiferroics with restricted geometries (SIMUFER, ref. MP0904). Chapter contributors have been carefully selected, and have all made major contributions to knowledge of the respective topics, and overall, they are among most respected scientists in the field.

Perovskite - Jinghua Zhang 2013-01-01

In this book, the authors present current research in the study of the crystallography, chemistry and catalytic performance of perovskites. Topics discussed include the defect structure and defect-induced expansion of perovskite oxides; perovskite-based catalysts for transformation of natural gas and oxygenates into syngas; Bi containing multiferroic perovskite oxide thin films; perovskites as catalysts for environmental remediation; microwave-assisted synthesis and characterisation of perovskite oxides; perovskite and lead based ceramic

materials; photocatalytic properties of perovskite-type layered oxides; structure of perovskite electron-ionic conductors; and distorted perovskites.

Oxford Textbook of Neuromuscular Disorders - David Hilton-Jones 2014

'The Oxford Textbook of Neuromuscular Disorders' covers the scientific basis, clinical diagnosis, and treatment of neuromuscular disorders, with a particular focus on the most clinically relevant disorders

Memristor and Memristive Neural Networks - Alex James 2018-04-04

This book covers a range of models, circuits and systems built with memristor devices and networks in applications to neural networks. It is divided into three parts: (1) Devices, (2) Models and (3) Applications. The resistive switching property is an important aspect of the memristors, and there are several designs of this discussed in this book, such as in metal oxide/organic semiconductor nonvolatile memories, nanoscale switching and degradation of resistive random access memory and graphene oxide-based memristor. The modelling of the memristors is required to ensure that the devices can be put to use and improve emerging application. In this book, various memristor models are discussed, from a mathematical framework to implementations in SPICE and verilog, that will be useful for the practitioners and researchers to get a grounding on the topic. The applications of the memristor models in various neuromorphic networks are discussed covering various neural network models, implementations in A/D converter and hierarchical temporal memories.