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Impact of Ion Implantation on Quantum Dot Heterostructures and Device Performance Dejure Mandal 2017-06-02 This book looks at the effects of ion implantation as an effective post-growth technique to improve the material properties, and ultimately, the device performance of In(Ga)As/GaAs quantum dot (QD) heterostructures. Over the past two decades, In(Ga)As/GaAs-based QD heterostructures have marked their superiority, particularly for application in lasers and photodetectors. Several in-situ and ex-situ techniques that improve material quality and device performance have already been reported. These techniques are necessary to maintain dot density and dot size uniformity in QD heterostructures and also to improve the material quality of heterostructures by removing defects from the system. While rapid thermal annealing, pulsed laser annealing and the hydrogen passivation technique have been popular as post-growth methods, ion implantation had not been explored largely as a post-growth method for improving the material properties of In(Ga)As/GaAs QD heterostructures. This work attempts to remedy this gap in the literature. The work also looks at introduction of a capping layer of quaternary alloy InAlGaAs over these In(Ga)As/GaAs QDs to achieve better QD characteristics. The contents of this volume will prove useful to researchers and professionals involved in the study of QDs and QD-based devices.

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.

Network Analysis & Synthesis Ghosh 2010

Grundlagen der Kommunikationstechnik John G. Proakis 2003 Proakis and Salehi haben mit diesem Lehrbuch einen Klassiker auf dem Gebiet der modernen Kommunikationstechnik geschaffen. Der Schwerpunkt liegt dabei auf den digitalen Kommunikationssystemen mit Themen wie Quellen- und Kanalcodierung sowie drahtlose Kommunikation u.a. Es gelingt den Autoren dabei der Brückenschlag von der Theorie zur Praxis. Außerdem werden mathematische Grundlagen wie Fourier-Analyse, Stochastik und Statistik gleich mitgeliefert. Zielgruppe: Studierende der Elektro- und Informationstechnik und verwandter technischer Studienrichtungen wie Kommunikationstechnik, Technische Infor.

Zeitdiskrete Signalverarbeitung Alan V. Oppenheim 2015-06-03 Wer die Methoden der digitalen Signalverarbeitung erlernen oder anwenden will, kommt ohne das weltweit bekannte, neu gefaßte Standardwerk "Oppenheim/Schafer" nicht aus. Die Beliebtheit des Buches beruht auf den didaktisch hervorragenden Einführungen, der umfassenden und tiefgreifenden Darstellung der Grundlagen, der kompetenten Berücksichtigung moderner Weiterentwicklungen und der Vielzahl verständnisfördernder Aufgaben.

AETA 2015: Recent Advances in Electrical Engineering and Related Sciences Hoang Duy 2016-03-09 This proceeding book consists of 10 topical areas of selected papers like: telecommunication, power systems, robotics, control system, renewable energy, power electronics, computer science and more. All selected papers represent interesting ideas and state of the art overview. Readers will find interesting papers of those areas about design and implement of dynamic positioning control system for USV, scheduling problems, motor control, backtracking search algorithm for distribution network and others. All selected papers represent interesting ideas and state of art overview. The proceeding book will also be a resource and material for practitioners who want to apply discussed problems to solve real-life problems in their challenging applications. It is also devoted to the studies of common and related subjects in intensive research fields of modern electric, electronic and related technologies. For these reasons, we believe that this proceeding book will be useful for scientists and engineers working in the above mentioned fields of research applications.

Foundations and Frontiers in Computer, Communication and Electrical Engineering Acharyya 2016-05-05 The 3rd International Conference on Foundations and Frontiers in Computer, Communication and Electrical Engineering is a notable event which brings together academia, researchers, engineers and students in the fields of Electronics and Communication, Computer and Electrical Engineering making the conference a perfect platform to share experience, f

Offshore Semi-Submersible Platform Engineering Srinivasan Chandrasekaran 2020-12-23 Offshore Semi-Submersible Platform Engineering presents a primer on the analysis and design of semi-submersible platforms, in particular, while also covering general analysis and design guidelines of offshore compliant platforms. It introduces general structural designs and also examines the details of the various environmental impacts that act upon them, such as fatigue, fire, collisions, and water waves. Features Provides thorough coverage of the dynamic analysis and design of semi-submersible platforms Assists readers through detailed analysis methods using MATLAB® as well as other computer programs used to carry out structural analysis Explains impact loading and dynamic response through numerical analysis and examines the various factors that affect semi-submersibles Presented in a coursework teaching style, the content is explained in a step-by-step manner using color figures, photos, screen shots, and illustrations, thereby enabling students, researchers, and practicing engineers to carry out analysis with ease Offshore Semi-Submersible Platform Engineering serves as a practical guide for upper-level students and graduates of various engineering disciplines, for example, naval architecture, and structural, mechanical, pipeline, and offshore engineering. Further, it can also be used as a reference for practicing professionals, as the book covers a broad range of scholarships and applications.

Journal of the Institution of Engineers (India)

Advances in Communication, Devices and Network Ropindranath Bera 2018-05-23 The book provides insights of International Conference in Communication, Devices and Networking (ICCDN 2017) organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India during 3 – 4 June, 2017. The book discusses latest research papers presented by researchers, engineers, academicians and industry professionals. It also assists both novice and experienced scientists and developers, to explore newer scopes, collect new ideas and establish new cooperation between research groups and exchange ideas, information, techniques and applications in the field of electronics, communication, devices and networking.

Nanoelectronic Materials and Devices Christophe Labbé 2017-11-27 This book gathers a collection of papers by international experts that were presented at the International Conference on NextGen Electronic Technologies (ICNETS2-2016). ICNETS2 encompassed six symposia covering all aspects of the electronics and communications domains, including relevant nano/micro materials and devices. Highlighting the latest research on nanoelectronic materials and devices, the book offers a valuable guide for researchers, practitioners and students working in the core areas of functional electronics nanomaterials, nanocomposites for energy application, sensing and high strength materials and simulation of novel device design structures for ultra-low power applications.

Computer-Netzwerk Andrew S. Tanenbaum 1992-01

Die Kinder von Dem Gesetz des Einem & Die Verlorenen Lehren von Atlantis Joris Peniel 2009

Intelligent Electrical Systems Satyajit Chakrabarti 2021-04-15 The conference aims to provide a premier platform for Engineers, researchers, scientists and academicians to present their work in the emerging areas such as Renewable Energy, Energy storage, Power Electronics & drives, Smart devices and communication systems, Artificial Intelligence, Robotics, Networks an IoT, Control and automation etc.

Nuclear Science Abstracts 975

Optimisation of ZnO Thin Films Saurabh Nagar 2017-05-22 This monograph describes the different implantation mechanisms which can be used to achieve strong, reliable and stable p-type ZnO thin films. The results will prove useful in the field of optoelectronics in the UV region. This book will prove useful to research scholars and professionals working on doping and implantation of ZnO thin films and subsequently fabricating optoelectronic devices. The first chapter of the monograph emphasises the importance of ZnO in the field of optoelectronics for ultraviolet (UV) region and also discusses the material, electronic and optical properties of ZnO. The book then goes on to discuss the optimization of pulsed laser deposited (PLD) ZnO thin films in order to make successful p-type films. This can enable achievement of high optical output required for high-efficiency devices. The book also discusses a hydrogen implantation study on the optimized films to confirm whether the implantation leads to improvement in the optimized results.

Quaternary Capped In(Ga)As/GaAs Quantum Dot Infrared Photodetectors Sourav Adhikary 2017-09-06 This book introduces some alternative methods for enhancing the performance of In(Ga)As/GaAs-based quantum dot infrared photodetectors (QDIPs). In(Ga)As/GaAs-based QDIPs and focal plane array (FPA) cameras have wide application in fields such as military and space science. The core of the study uses a combination of quaternary In_{0.21}Al_{0.21}Ga_{0.58}As and GaAs spacer as a capping layer on In(Ga)As/GaAs quantum dots in the active region of the detector structure. For the purposes of optimization, three types of samples growths are considered with different capping thicknesses. The results presented include TEM, XRD and photoluminescence studies that compare combination barrier thickness and its effect on structural and optical properties. Compressive strain within the heterostructure, thermal stability in high temperature annealing, spectral response, shifts in PL peaks peak, and responsivity and detectivity are all considered. The results also present a narrow spectral width that was obtained by using InAs QDs which is very useful for third generation FPA camera application. The book details effect of post-growth rapid thermal annealing on device characteristics and methods to enhance responsivity and peak detectivity. The contents of this book will be useful to researchers and professionals alike.

An Introduction to High-Voltage Experimental Techniques Dieter Kind 2013-03-09

Indian Science Abstracts 2002

Basic Electrical and Electronics Engineering

Moderne Regelungssysteme Richard C. Dorf 2007

Machine Intelligence and Data Science Applications Anisulav Skala 2022-08-01 This book is a compilation of peer reviewed papers presented at International Conference on Machine Intelligence and Data Science Applications (MIDAS 2021), held in Comilla University, Cumilla, Bangladesh during 26 – 27 December 2021. The book covers applications in various fields like image processing, natural language processing, computer vision, sentiment analysis, speech and gesture analysis, etc. It also includes interdisciplinary applications like legal, healthcare, smart society, cyber physical system and smart agriculture, etc. The book is a good reference for computer science engineers, lecturers/researchers in machine intelligence discipline and engineering graduates.

Power Transmission System Analysis Against Faults and Attacks Anshulika Chowdhury 2021-04-13 The present-day power grid is basically a complex power transmission network with risks of failure due to unplanned attacks and contingencies, and therefore, assessment of vulnerability of transmission network is important and the process is based on contingency approach. This book deals with the methods of assessment of the grid network vulnerability and addresses the grid collapse problem due to cascaded failures of the transmission network following an attack or an unplanned contingency. Basic mitigation aspects for the network has been explored and the immunity of such a power transmission network against vulnerable collapse has been described using mathematical models.

An Introduction to Reactive Power Control and Voltage Stability in Power Transmission Systems Satyajit Chakrabarti 2010-01-30 This text, intended for the students pursuing postgraduate programmes in Electrical Engineering, focuses special attention on the implications of reactive power in voltage stability of transmission systems. The basic concepts of power system stability and other operational aspects have been discussed. Both the advanced and the practical aspects have been highlighted. Modern concepts and applications, theoretical as well as a simulated study, have been presented wherever necessary. In brief, the text presents a complete overview of the research and engineering aspects of the problem of stability, suitable both for academics and practising engineers, along with a brief historical review of the concern topics. In some instances the authors have included some of their own research results while maintaining the uniformity of overall treatment the book. The text is replete with examples and is backed up by analytical derivations and physical interpretations, wherever considered necessary.

Communication, Devices, and Computing Jaydeb Bhaumik 2018-04-07 This book provides insights into the First International Conference on Communication, Devices and Computing (ICCDC 2017), which was held in Haldia, India on November 2–3, 2017. It covers new ideas, applications and the experiences of research engineers, scientists, industrialists, scholars and students from around the globe. The proceedings highlight cutting-edge research on communication, electronic devices and computing, and address diverse areas such as 5G communication, spread spectrum systems, wireless sensor networks, signal processing for secure communication, error control coding, printed antennas, analysis of wireless networks, antenna array systems, analog and digital signal processing for communication systems, frequency selective surfaces, radar communication, and substrate integrated waveguide and microwave passive components, which are key

to state-of-the-art innovations in communication technologies.

Analog Communication System B. Chakrabarti 2005-01-01

POWER SYSTEM DYNAMICS AND SIMULATION ABHIJIT CHAKRABARTI 2013-04-08 This comprehensive textbook introduces electrical engineering students and engineers to the various aspects of power system dynamics. It focuses on explaining and analysing the dynamic performance of such systems which are important for both system operation and planning. The aim of this book is to present a comprehensive treatise in order to study the dynamics and simulation of the power networks. After going through the complete text, the students will be able to understand fundamental dynamic behaviour and controls of power systems and to perform basic stability analysis. The topics substantiated with suitable illustrations and computer programs describe analytical aspects of operation and characteristic of power system from the view point of steady state and dynamic condition. This text serves as a well-knit introduction to Power System Dynamics and is suitable for a one-semester course for the senior-level undergraduate students of electrical engineering and postgraduate students specializing in Power Systems.

Course in Electrical Machine Design K Sawhney 2006

Handbook of Medical Imaging 2000-10-09 In recent years, the remarkable advances in medical imaging instruments have increased their use considerably for diagnostics as well as planning and follow-up of treatment. Emerging from the fields of radiology, medical physics and engineering, medical imaging no longer simply deals with the technology and interpretation of radiographic images. The limitless possibilities presented by computer science and technology, coupled with engineering advances in signal processing, optics and nuclear medicine have created the vastly expanded field of medical imaging. The Handbook of Medical Imaging is the first comprehensive compilation of the concepts and techniques used to analyze and manipulate medical images after they have been generated or digitized. The Handbook is organized in six sections that relate to the main functions needed for processing: enhancement, segmentation, quantification, registration, visualization as well as compression storage and telemedicine. * Internationally renowned authors (Johns Hopkins, Harvard, UCLA, Yale, Columbia, UCSF) * Includes imaging and visualization * Contains over 60 pages of stunning, four-color images

Dielectric Materials for Electrical Engineering J. Martinez-Vega 2013-03-04 Part 1 is particularly concerned with physical properties, electrical ageing and modeling with topics such as the physics of charged dielectric materials, conduction mechanisms, dielectric relaxation, space charge, electric ageing and life end models and dielectric experimental characterization. Part 2 concerns some applications specific to dielectric materials: insulating oils for transformers, electrorheological fluids, electrolytic capacitors, ionic membranes, photovoltaic conversion, dielectric thermal control coatings for geostationary satellites, plastics recycling and piezoelectric polymers.

Research into Design for Communities, Volume 2 Aravesh Chakrabarti 2017-04-13 This book showcases cutting-edge research papers from the 6th International Conference on Research into Design (ICoRD 2017) - the largest in India in this area - written by eminent researchers from across the world on design process, technologies, methods and tools, and their impact on innovation, for supporting design for communities. While design traditionally focused on the development of products for the individual, the emerging consensus on working towards a more sustainable world demands greater attention to designing for and with communities, so as to promote their sustenance and harmony - within each community and across communities. The special features of the book are the insights into the product and system innovation process, and the host of methods and tools from all major areas of design research for the enhancement of the innovation process. The main benefit of the book for researchers in various areas of design and innovation are access to the latest quality research in this area, with the largest collection of research from India. For practitioners and educators, it is exposure to an empirically validated suite of theories, models, methods and tools that can be taught and practiced for design-led innovation. The contents of this volume will be of use to researchers and professionals working in the areas on industrial design, manufacturing, consumer goods, and industrial management.

Computer, Communication and Electrical Technology Abhishek Guha 2017-03-16 The First International Conference on Advancement of Computer, Communication and Electrical Technology focuses on key technologies and recent progress in computer vision, information technology applications, VLSI, signal processing, power electronics & drives, and application of sensors & transducers, etc. Topics in this conference include: Computer Science This conference encompassed relevant topics in computer science such as computer vision & intelligent system, networking theory, and application of information technology. Communication Engineering To enhance the theory & technology of communication engineering, ACCET 2016 highlighted the state-of-the-art research work in the field of VLSI, optical communication, and signal processing of various data formatting. Research work in the field of microwave engineering, cognitive radio and networks are also included. Electrical Technology The state-of-the-art research topic in the field of electrical & instrumentation engineering included in this conference such as power system stability & protection, non-conventional energy resources, electrical drives, and biomedical engineering. Research work in the area of optimization and application in control, measurement & instrumentation are included as well.

Angewandte Mathematik: Body and Soul Kenneth Eriksson 2006-07-18 Der 3-bändige Grundkurs für Studienanfänger verbindet die mathematische Analysis (Soul) mit numerischer Berechnung (Body) und einer Fülle von Anwendungen. Die Autoren haben die Inhalte im Unterricht erprobt. Band 1 behandelt die Grundlagen der Analysis.

Soft Computing Techniques in Voltage Security Analysis Sisir Chakraborty 2015-03-04 This book focuses on soft computing techniques for enhancing voltage security in electrical power networks. Artificial neural networks (ANNs) have been chosen as a soft computing tool, since such networks are eminently suitable for the study of voltage security. The different architectures of the ANNs used in this book are selected on the basis of intelligent criteria rather than by a "brute force" method of trial and error. The fundamental aim of this book is to present a comprehensive treatise on power system security and the simulation of power system security. The core concepts are substantiated by suitable illustrations and computer methods. The book describes analytical aspects of operation and characteristics of power systems from viewpoint of voltage security. The text is self-contained and thorough. It is intended for senior undergraduate students and postgraduate students in electrical engineering. Practicing engineers, Electrical Control Center (ECC) operators and researchers will also find the book useful.

ENERGY ENGINEERING AND MANAGEMENT CHAKRABARTI, AMLAN 2018-11-01 The textbook is designed for B.Tech students of Electrical/Mechanical/Industrial Engineering and M.Tech students of Power System/Energy Engineering/Energy Management. It will also be useful for MBA courses on Energy Management conducted by some universities through distance education mode. The book, now in its Second Edition, offers an exhaustive discussion of the energy analysis methodologies and tools to optimize the utilization of energy and how to enhance efficiency during conversion of energy from one form to another. It illustrates the energy analysis methods used in factories, transportation systems and buildings highlighting the various forms of use. It also discusses the thermodynamic principles of energy conversion and constitution of energy balance equation for such systems. The book examines the energy costs in our everyday life in terms of energy inputs in food cultivation. It also discusses similar energy costs of using fuels, other goods and services in our daily life
KEY FEATURES • Includes numerous questions and answers on Energy Management • Contains problems and solutions on Energy Management • Provides MCQs for the preparation of certified energy auditor examination conducted by the Bureau of Energy Efficiency, Govt of India • Includes Case Studies
NEW TO THE SECOND EDITION • Includes new chapters on Electrical Systems, Transformers, Electric Motors, Pumps and

Fans, Compressors, Water Heaters, Electrolytic Processes, and Energy Control Centre • Incorporates latest topics in the existing chapters • Provides critical case studies

Fundamental Research in Electrical Engineering Shahram Montaser Kouhsari 2018-07-25 This volume presents the selected papers of the First International Conference on Fundamental Research in Electrical Engineering, held at Khwarazmi University, Tehran, Iran in July, 2017. The selected papers cover the whole spectrum of the main four fields of Electrical Engineering (Electronic, Telecommunications, Control, and Power Engineering).

Electrical Engineering and Control Min Zhu 2011-06-21 This volume includes extended and revised versions of a set of selected papers from the International Conference on Electric and Electronics (EEIC 2011) , held on June 20-22 , 2011, which is jointly organized by Nanchang University, Springer, and IEEE IAS Nanchang Chapter. The objective of EEIC 2011 Volume 2 is to provide a major interdisciplinary forum for the presentation of new approaches from Electrical engineering and controls, to foster integration of the latest developments in scientific research. 133 related topic papers were selected into this volume. All the papers were reviewed by 2 program committee members and selected by the volume editor Prof. Min Zhu. We hope every participant can have a good opportunity to exchange their research ideas and results and to discuss the state of the art in the areas of the Electrical engineering and controls.

Make: Elektronik Charles Platt 2010 Mochtest du Elektronik-Grundwissen auf eine unterhaltsame und geschmeidige Weise lernen? Mit Make: Elektronik tauchst du sofort in die faszinierende Welt der Elektronik ein. Entdecke die Elektronik und verstehe ihre Gesetze durch beeindruckende Experimente: Zuerst baust du etwas zusammen, dann erst kommt die Theorie. Vom Einfachen zum Komplexen: Du beginnst mit einfachen Anwendungen und gehst dann zugig uber zu immer komplexeren Projekten: vom einfachen Schaltkreis zum Integrierten Schaltkreis (IC), vom simplen Alarmsignal zum programmierbaren Mikrocontroller. Schritt-fur-Schritt-Anleitungen und uber 500 farbige Abbildungen und Fotos helfen dir dabei, Elektronik einzusetzen -- und zu verstehen.

Structural, Optical and Spectral Behaviour of InAs-based Quantum Dot Heterostructures Saumea Sengupta 2017-08-04 This book explores the effects of growth pause or ripening time on the properties of quantum dots(QDs). It covers the effects of post-growth rapid thermal annealing (RTA) treatment on properties of single layer QDs. The effects of post-growth rapid thermal annealing (RTA) treatment on properties of single layer QDs are discussed. The book offers insight into InAs/GaAs bilayer QD heterostructures with very thin spacer layers and discusses minimum spacer thickness required to grow electronically coupled bilayer QD heterostructures. These techniques make bilayer QD heterostructures a better choice over the single layer and uncoupled multilayer QD heterostructure. Finally, the book discusses sub-monolayer (SML) growth technique to grow QDs. This recent technique has been proven to improve the device performance significantly. The contents of this monograph will prove useful to researchers and professionals alike.

Engineering Design Synthesis Amaresh Chakrabarti 2013-03-09 This book brings together some of the most influential pieces of research undertaken around the world in design synthesis. It is the first comprehensive work of this kind and covers all three aspects of research in design synthesis: - understanding what constitutes and influences synthesis; - the major approaches to synthesis; - the diverse range of tools that are created to support this crucial design task. With its range of tools and methods covered, it is an ideal introduction to design synthesis for those intending to research in this area as well as being a valuable source of ideas for educators and practitioners of engineering design.