# Power System Analysis Halder And Chakrabarti

**Swarm, Evolutionary, and Memetic Computing** - Bijaya Ketan Panigrahi 2011-12-07
Annotation This volume constitutes the refereed proceedings of the Second International Conference on Swarm, Evolutionary, and Memetic Computing, SEMCCO 2011, held in Visakhapatnam, India, in December 2011. The 124 revised full papers presented in both volumes were carefully reviewed and selected from 422 submissions.

*Modelling and Simulation in Science, Technology and Engineering Mathematics* - Surajit Chattopadhyay 2018-10-24
This volume contains the peer-reviewed proceedings of the International Conference on Modelling and Simulation (MS-17), held in Kolkata, India, 4th-5th November 2017, organized by the Association for the Advancement of Modelling and Simulation Techniques in Enterprises (AMSE, France) in association with the Institution of Engineering Technology (IET, UK), Kolkata Network. The contributions contained here showcase some recent advances in modelling and simulation across various aspects of science and technology. This book brings together articles describing applications of modelling and simulation techniques in fields as diverse as physics, mathematics, electrical engineering, industrial electronics, control, automation, power systems, energy and robotics. It includes a special section on mechanical, fuzzy, optical and opto-electronic control of oscillations. It provides a snapshot of the state of the art in modelling and simulation methods and their applications, and will be of interest to researchers and engineering professionals from industry, academia and research organizations.
**Power Systems Analysis** - Arthur R. Bergen 2009

**Power System Operation & Control:** - Ramana
Power System Operation and Control is a comprehensive text designed for an undergraduate course in electrical engineering. Written in a simple and easy-to-understand manner, the book introduces the reader to economic operation of power system and r
*Power System Small Signal Stability Analysis and Control* - Debasish Mondal 2020-02-20
Power System Small Signal Stability Analysis and Control, Second Edition analyzes severe outages due to the sustained growth of small signal oscillations in modern interconnected power systems. This fully revised edition addresses the continued expansion of power systems and the rapid upgrade to smart grid technologies that call for the implementation of robust and optimal controls. With a new chapter on MATLAB programs, this book describes how the application of power system damping controllers such as Power System Stabilizers and Flexible Alternating Current Transmission System controllers—namely Static Var Compensator and Thyristor Controlled Series Compensator —can guard against system disruptions. Detailed mathematical derivations, illustrated case studies, the application of soft computation techniques, designs of robust controllers, and end-of-chapter exercises make it a useful resource to researchers, practicing engineers, and post-graduates in electrical engineering. Considers power system small signal stability and provides various techniques to mitigate it Offers a new and straightforward method of finding the optimal location of PSS in a multi-machine power system Includes MATLAB programs and simulations for practical applications
**Pattern Recognition and Machine Intelligence** - B. Uma Shankar 2017-11-22
This book constitutes the proceedings of the 7th International Conference on Pattern Recognition and Machine Intelligence, PReMI 2017,held in Kolkata, India, in December 2017. The total of 86 full papers presented in this volume were carefully reviewed and selected from 293 submissions. They were organized in topical sections named: pattern recognition and machine learning; signal and image processing;

computer vision and video processing; soft and natural computing; speech and natural language processing; bioinformatics and computational biology; data mining and big data analytics; deep learning; spatial data science and engineering; and applications of pattern recognition and machine intelligence.
*Meta-Heuristics Optimization Algorithms in Engineering, Business, Economics, and Finance* - Vasant, Pandian M. 2012-09-30
Optimization techniques have developed into a significant area concerning industrial, economics, business, and financial systems. With the development of engineering and financial systems, modern optimization has played an important role in service-centered operations and as such has attracted more attention to this field. Meta-heuristic hybrid optimization is a newly development mathematical framework based optimization technique. Designed by logicians, engineers, analysts, and many more, this technique aims to study the complexity of algorithms and problems. Meta-Heuristics Optimization Algorithms in Engineering, Business, Economics, and Finance explores the emerging study of meta-heuristics optimization algorithms and methods and their role in innovated real world practical applications. This book is a collection of research on the areas of meta-heuristics optimization algorithms in engineering, business, economics, and finance and aims to be a comprehensive reference for decision makers, managers, engineers, researchers, scientists, financiers, and economists as well as industrialists.
Soft Computing Techniques in Voltage Security Analysis - Kabir 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 the 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.
ELECTRICAL POWER SYSTEMS - SUBIR RAY 2014-04-04
This textbook, in its second edition aims to provide undergraduate students of Electrical Engineering with a unified treatment of all aspects of modern power systems, including generation, transmission and distribution of electric power, load flow studies, economic considerations, fault analysis and stability, high voltage phenomena, system protection, power control, and so on. The text systematically deals with the fundamental techniques in power systems, coupled with adequate analytical techniques and reference to practices in the field. Special emphasis is placed on the latest developments in power system engineering. The book will be equally useful to the postgraduate students specialising in power systems and practising engineers as a reference. NEW TO THIS EDITION • Chapters on Elements of Electric Power Generation and Power System Economics are thoroughly updated. • A new Chapter on Control of Active and Reactive Power is added.
**Power System Transients** - 2010*

**A Comprehensive Approach to Implement Monitoring and State Estimation in Distribution Grids with a Low Number of Measurements** - Jan-Hendrik Menke 2020-01-01

This work addresses the monitoring and state estimation of electrical grids, especially at the distribution level. For economic and technical reasons, grid monitoring cannot be implemented with a similarly high measurement density as in transmission grids. Two new monitoring methods, which are designed for low measurement density, are therefore presented for use in real-time grid operation. First, a heuristic monitoring method is presented, which does not require pseudo-measurements and estimates voltage magnitudes and line loadings. Second, a monitoring method based on artificial neural networks is presented. With appropriate training, the method can estimate grid variables, e.g., voltage magnitudes or line loadings, with high accuracy. The methods are tested on thousands of test scenarios using a comprehensive evaluation methodology. For measurement infrastructure planning, a concept is presented to determine suitable measurement locations for the use of one of the monitoring methods. After optimization, several possible measurement configurations are presented with their average and maximum errors and the projected capital expenditures.

## Advanced Computing and Systems for Security - Rituparna Chaki 2015-11-18

The book contains the extended version of the works that have been presented and discussed in the Second International Doctoral Symposium on Applied Computation and Security Systems (ACSS 2015) held during May 23-25, 2015 in Kolkata, India. The symposium has been jointly organized by the AGH University of Science & Technology, Cracow, Poland; Ca' Foscari University, Venice, Italy and University of Calcutta, India. The book is divided into volumes and presents dissertation works in the areas of Image Processing, Biometrics-based Authentication, Soft Computing, Data Mining, Next Generation Networking and Network Security, Remote Healthcare, Communications, Embedded Systems, Software Engineering and Service Engineering.

## Artificial Intelligence in Power System Optimization - Weerakorn Ongsakul 2016-04-19

With the considerable increase of AI applications, AI is being increasingly used to solve optimization problems in engineering. In the past two decades, the applications of artificial intelligence in power systems have attracted much research. This book covers the current level of applications of artificial intelligence to the optimization problems in power systems. This book serves as a textbook for graduate students in electric power system management and is also useful for those who are interested in using artificial intelligence in power system optimization.

## Emotion Recognition - Amit Konar 2015-01-27

A timely book containing foundations and current research directions on emotion recognition by facial expression, voice, gesture and biopotential signals This book provides a comprehensive examination of the research methodology of different modalities of emotion recognition. Key topics of discussion include facial expression, voice and biopotential signal-based emotion recognition. Special emphasis is given to feature selection, feature reduction, classifier design and multi-modal fusion to improve performance of emotion-classifiers. Written by several experts, the book includes several tools and techniques, including dynamic Bayesian networks, neural nets, hidden Markov model, rough sets, type-2 fuzzy sets, support vector machines and their applications in emotion recognition by different modalities. The book ends with a discussion on emotion recognition in automotive fields to determine stress and anger of the drivers, responsible for degradation of their performance and driving-ability. There is an increasing demand of emotion recognition in diverse fields, including psycho-therapy, bio-medicine and security in government, public and private agencies. The importance of emotion recognition has been given priority by industries including Hewlett Packard in the design and development of the next generation human-computer interface (HCI) systems. Emotion Recognition: A Pattern Analysis Approach would be of great interest to researchers, graduate students and practitioners, as the book Offers both foundations and advances on emotion recognition in a single volume Provides a thorough and insightful introduction to the subject by utilizing computational tools of diverse domains Inspires young researchers to prepare themselves for their own research Demonstrates direction of future research through new technologies, such as Microsoft Kinect, EEG systems etc.

## ELECTRIC POWER GENERATION - S. N. SINGH 2008-06-23

This accessible text, now in its Second Edition, continues to provide a comprehensive coverage of electric power generation, transmission and distribution, including the operation and management of different systems in these areas. It gives an overview of the basic principles of electrical engineering and load characteristics and provides exhaustive system-level description of several power plants, such as thermal, electric, nuclear and gas power plants. The book fully explores the basic theory and also covers emerging concepts and technologies. The conventional topics of transmission subsystem including HVDC transmission are also discussed, along with an introduction to new technologies in power transmission and control such as Flexible AC Transmission Systems (FACTS). Numerous solved examples, interspersed throughout, illustrate the concepts discussed. What is New to This Edition : Provides two new chapters on Diesel Engine Power Plants and Power System Restructuring to make the students aware of the changes taking place in the power system industry. Includes more solved and unsolved problems in each chapter to enhance the problem solving skills of the students. Primarily designed as a text for the undergraduate students of electrical engineering, the book should also be of great value to power system engineers.

## Advances in Computer, Communication and Control - Utpal Biswas 2019-02-14

The book discusses the recent research trends in various sub-domains of computing, communication and control. It includes research papers presented at the First International Conference on Emerging Trends in Engineering and Science. Focusing on areas such as optimization techniques, game theory, supply chain, green computing, 5g networks, Internet of Things, social networks, power electronics and robotics, it is a useful resource for academics and researchers alike.

## A Text Book On Power System Engineering - A. Chakrabarti 2008-01-01

*Fundamentals of Power System Protection* - Paithankar Y. G. 2010

## Geotechnical Characterization and Modelling - Madhavi Latha Gali 2020-09-18

This volume comprises select papers presented during the Indian Geotechnical Conference 2018, discussing issues and challenges relating to the characterization of geomaterials, modelling approaches, and geotechnical engineering education. With a combination of field studies, laboratory experiments and modelling approaches, the chapters in this volume address some of the most widely investigated geotechnical engineering topics. This volume will be of interest to researchers and practitioners alike.

## Advances in Systems, Control and Automations - Akash Kumar Bhoi 2021-03-19

This book comprises select proceedings of the international conference ETAEERE 2020. This volume covers latest research in advanced approaches in automation, control based devices, and adaptive learning mechanisms. The contents discuss the complex operations and behaviors of different systems or machines in different environments. Some of the areas covered include control of linear and nonlinear systems, intelligent systems, stochastic control, knowledge-based systems applications, fault diagnosis and tolerant control, and real-time control applications. The contents of this volume can be useful for researchers as well as professionals working in control and automation.

## Power System Operation and Control - Sivanagaraju, S.

Power System Operation and Control is comprehensively designed for undergraduate and postgraduate courses in electrical engineering. This book aims to meet the requirements of electrical engineering students and is useful for practicing engineers.

## Assessment of Climate Change over the Indian Region - R. Krishnan 2020-06-12

This open access book discusses the impact of human-induced global climate change on the regional climate and monsoons of the Indian subcontinent, adjoining Indian Ocean and the Himalayas. It documents the regional climate change projections based on the climate models used in the IPCC Fifth Assessment Report (AR5) and climate change modeling studies using the IITM Earth System Model (ESM) and CORDEX South Asia datasets. The IPCC assessment reports, published every 6–7 years, constitute important reference materials for major policy decisions on climate change, adaptation, and mitigation. While the IPCC assessment reports largely provide a global perspective on climate change, the focus on regional climate change aspects is considerably limited. The effects of climate change over the Indian subcontinent involve complex physical processes on different space and time scales, especially given that the mean climate of this region is generally shaped by the Indian monsoon and the unique high-elevation geographical features such as the Himalayas, the Western Ghats, the Tibetan Plateau

and the adjoining Indian Ocean, Arabian Sea, and Bay of Bengal. This book also presents policy relevant information based on robust scientific analysis and assessments of the observed and projected future climate change over the Indian region.

**Power System** - BR Gupta 2008
It is gratifying to note that the book has very widespread acceptance by faculty and students throughout the country.n the revised edition some new topics have been added.Additional solved examples have also been added.The data of transmission system in India has been updated.

**Computational Intelligence Paradigms for Optimization Problems Using MATLAB®/SIMULINK®** - S. Sumathi 2018-09-03
Considered one of the most innovative research directions, computational intelligence (CI) embraces techniques that use global search optimization, machine learning, approximate reasoning, and connectionist systems to develop efficient, robust, and easy-to-use solutions amidst multiple decision variables, complex constraints, and tumultuous environments. CI techniques involve a combination of learning, adaptation, and evolution used for intelligent applications. Computational Intelligence Paradigms for Optimization Problems Using MATLAB®/ Simulink® explores the performance of CI in terms of knowledge representation, adaptability, optimality, and processing speed for different real-world optimization problems. Focusing on the practical implementation of CI techniques, this book: Discusses the role of CI paradigms in engineering applications such as unit commitment and economic load dispatch, harmonic reduction, load frequency control and automatic voltage regulation, job shop scheduling, multidepot vehicle routing, and digital image watermarking Explains the impact of CI on power systems, control systems, industrial automation, and image processing through the above-mentioned applications Shows how to apply CI algorithms to constraint-based optimization problems using MATLAB® m-files and Simulink® models Includes experimental analyses and results of test systems Computational Intelligence Paradigms for Optimization Problems Using MATLAB®/ Simulink® provides a valuable reference for industry professionals and advanced undergraduate, postgraduate, and research students.

**An Introduction to Reactive Power Control and Voltage Stability in Power Transmission Systems** - Abhijit 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 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 concerned topics. In some instances the authors have included some of their own research results while maintaining the uniformity of overall treatment of the book. The text is replete with examples and is backed up by analytical derivations and physical interpretations, wherever considered necessary.

**Emerging Technology in Modelling and Graphics** - Jyotsna Kumar Mandal 2019-07-16
The book covers cutting-edge and advanced research in modelling and graphics. Gathering high-quality papers presented at the First International Conference on Emerging Technology in Modelling and Graphics, held from 6 to 8 September 2018 in Kolkata, India, it addresses topics including: image processing and analysis, image segmentation, digital geometry for computer imaging, image and security, biometrics, video processing, medical imaging, and virtual and augmented reality.

**Application of Artificial Neural Network in Power System Analysis** - Dr.Gitanjali Saha 2022-11-22

*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.

**Power System Small Signal Stability Analysis and Control** - Debasish Mondal 2020-02
Power System Small Signal Stability Analysis and Control, Second Edition analyzes severe outages due to the sustained growth of small signal oscillations in modern interconnected power systems. This fully revised edition addresses the continued expansion of power systems and the rapid upgrade to smart grid technologies that call for the implementation of robust and optimal controls. With a new chapter on MATLAB programs, this book describes how the application of power system damping controllers such as Power System Stabilizers and Flexible Alternating Current Transmission System controllers-namely Static Var Compensator and Thyristor Controlled Series Compensator - can guard against system disruptions. Detailed mathematical derivations, illustrated case studies, the application of soft computation techniques, designs of robust controllers, and end-of-chapter exercises make it a useful resource to researchers, practicing engineers, and post-graduates in electrical engineering. Considers power system small signal stability and provides various techniques to mitigate it Offers a new and straightforward method of finding the optimal location of PSS in a multi-machine power system Includes MATLAB programs and simulations for practical applications

**Power System Dynamics** - Ramanujam, R. 2009
This comprehensive text offers a detailed treatment of modelling of components and sub-systems for studying the transient and dynamic stability of large-scale power systems. Beginning with an overview of basic concepts of stability of simple systems, the book is devoted to in-depth coverage of modelling of synchronous machine and its excitation systems and speed governing controllers. Apart from covering the modelling aspects, methods of interfacing component models for the analysis of small-signal stability of power systems are presented in an easy-to-understand manner. The book also offers a study of simulation of transient stability of power systems as well as electromagnetic transients involving synchronous machines. Practical data pertaining to power systems, numerical examples and derivations are interspersed throughout the text to give students practice in applying key concepts. 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. Contents: contents Preface 1. ONCE OVER LIGHTLY 2. POWER SYSTEM STABILITY—ELEMENTARY ANALYSIS 3. SYNCHRONOUS MACHINE MODELLING FOR POWER SYSTEM DYNAMICS 4. MODELLING OF OTHER COMPONENTS FOR DYNAMIC ANALYSIS 5. OVERVIEW OF NUMERICAL METHODS 6. SMALL-SIGNAL STABILITY ANALYSIS OF POWER SYSTEMS 7. TRANSIENT STABILITY ANALYSIS OF POWER SYSTEMS 8. SUBSYNCHRONOUS AND TORSIONAL OSCILLATIONS 9. ENHANCEMENT AND COUNTERMEASURES Index

**Electrical Design of a 400 kV Composite Tower** - Tohid Jahangiri 2019-04-23
This book presents an innovative concept for designing a 400 kV double circuit composite tower. The major challenges encountered by the authors in the electrical design process of the composite tower are addressed. They concern material selection for the full composite cross-arm core, electrical insulation of the cross-arm, electrical dimensioning of the full composite tower, lightning shielding performance and failure of the full composite tower. The electric field performance of the tower's insulation has been investigated theoretically by using finite element method and experimentally by testing different fiber reinforced polymers as candidates. The book reports in detail those finite element simulations and tests, together with the authors' recommendations on the most suitable materials and manufacturing process as well as conductor clamp designs for the cross-arm. Another important issue of the full composite tower, which concerns the environmental aspects of the full composite tower, has also been evaluated. This book offers a timely reference guide on a highly innovative topic, addressing researchers working on power transmission system both in industry and academia.

*Voltage Stability of Electric Power Systems* - Thierry van Cutsem 2007-10-12
Voltage Stability is a challenging problem in Power Systems Engineering. This book presents a description of voltage instability and collapse phenomena. It intends to propose a uniform and coherent theoretical framework for analysis. It describes practical methods that can be used for voltage security assessment and offers a variety of examples.

*AI and Machine Learning Paradigms for Health Monitoring System* - Hasmat Malik 2021-02-14
This book embodies principles and applications of advanced soft computing approaches in engineering, healthcare and allied domains directed toward the researchers aspiring to learn and apply intelligent data analytics techniques. The first part covers AI, machine learning and

data analytics tools and techniques and their applications to the class of several hospital and health real-life problems. In the later part, the applications of AI, ML and data analytics shall be covered over the wide variety of applications in hospital, health, engineering and/or applied sciences such as the clinical services, medical image analysis, management support, quality analysis, bioinformatics, device analysis and operations. The book presents knowledge of experts in the form of chapters with the objective to introduce the theme of intelligent data analytics and discusses associated theoretical applications. At last, it presents simulation codes for the problems included in the book for better understanding for beginners.

Proceedings of International Conference on Frontiers in Computing and Systems - Debotosh Bhattacharjee 2020-11-23
This book gathers outstanding research papers presented at the International Conference on Frontiers in Computing and Systems (COMSYS 2020), held on January 13–15, 2019 at Jalpaiguri Government Engineering College, West Bengal, India and jointly organized by the Department of Computer Science & Engineering and Department of Electronics & Communication Engineering. The book presents the latest research and results in various fields of machine learning, computational intelligence, VLSI, networks and systems, computational biology, and security, making it a rich source of reference material for academia and industry alike.

**Handbook of Probabilistic Models** - Pijush Samui 2019-10-05
Handbook of Probabilistic Models carefully examines the application of advanced probabilistic models in conventional engineering fields. In this comprehensive handbook, practitioners, researchers and scientists will find detailed explanations of technical concepts, applications of the proposed methods, and the respective scientific approaches needed to solve the problem. This book provides an interdisciplinary approach that creates advanced probabilistic models for engineering fields, ranging from conventional fields of mechanical engineering and civil engineering, to electronics, electrical, earth sciences, climate, agriculture, water resource, mathematical sciences and computer sciences. Specific topics covered include minimax probability machine regression, stochastic finite element method, relevance vector machine, logistic regression, Monte Carlo simulations, random matrix, Gaussian process regression, Kalman filter, stochastic optimization, maximum likelihood, Bayesian inference, Bayesian update, kriging, copula-statistical models, and more. Explains the application of advanced probabilistic models encompassing multidisciplinary research Applies probabilistic modeling to emerging areas in engineering Provides an interdisciplinary approach to probabilistic models and their applications, thus solving a wide range of practical problems

Proceedings of International Conference on Industrial Instrumentation and Control - Subhasis Bhaumik 2022-02-15
This book is a collection of selected high-quality research papers presented at the International Conference on Industrial Instrumentation and Control (ICI2C 2021), organized by the Department of Applied Electronics & Instrumentation Engineering, RCC Institute of Information Technology, Kolkata, India, during 20–August 22, 2021. It includes novel and innovative work from experts, practitioners, scientists and decision-makers from academia and industry. It covers topics such as instrumentation application in industry, instrumentation in electrical applications and instrumentation in recent trends with computation approach.

*Power System Analysis: Operation And Control 3Rd Ed.* - Abhijit Chakrabarti 2010-01-30
This comprehensive book is designed both for postgraduate students in power systems/energy systems engineering and a one-year course for senior undergraduate students of electrical engineering pursuing courses on power systems. The text gives a systematic exposition of topics such as modelling of power system components, load flow, automatic load frequency control, economic operation, voltage control and stability, study of faulted power systems, and optimal power flow. Besides giving a detailed discussion on the basic principles and practices, the text provides computer-based examples to illustrate the topics discussed. What makes the text unique is that it deals with the practice of computer for power system operation and control. This book also brings together the diverse aspects of power system operation and control and is a practical hands-on guide to theoretical developments and to the application of advanced methods in solving operational and control problems of electric power systems. The book should therefore be of immense benefit to the industry professionals and researchers as well.

Bioelectronics and Medical Devices - Dr. Kunal Pal 2019-06-15
Bioelectronics and Medical Devices: From Materials to Devices-Fabrication, Applications and Reliability reviews the latest research on electronic devices used in the healthcare sector, from materials, to applications, including biosensors, rehabilitation devices, drug delivery devices, and devices based on wireless technology. This information is presented from the unique interdisciplinary perspective of the editors and contributors, all with materials science, biomedical engineering, physics, and chemistry backgrounds. Each applicable chapter includes a discussion of these devices, from materials and fabrication, to reliability and technology applications. Case studies, future research directions and recommendations for additional readings are also included. The book addresses hot topics, such as the latest, state-of the-art biosensing devices that have the ability for early detection of life-threatening diseases, such as tuberculosis, HIV and cancer. It covers rehabilitation devices and advancements, such as the devices that could be utilized by advanced-stage ALS patients to improve their interactions with the environment. In addition, electronic controlled delivery systems are reviewed, including those that are based on artificial intelligences. Presents the latest topics, including MEMS-based fabrication of biomedical sensors, Internet of Things, certification of medical and drug delivery devices, and electrical safety considerations Presents the interdisciplinary perspective of materials scientists, biomedical engineers, physicists and chemists on biomedical electronic devices Features systematic coverage in each chapter, including recent advancements in the field, case studies, future research directions, and recommendations for additional readings

Power Transmission System Analysis Against Faults and Attacks - Tamalika 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.

Power System Analysis - John Grainger 1994
This updated edition includes: coverage of power-system estimation, including current developments in the field; discussion of system control, which is a key topic covering economic factors of line losses and penalty factors; and new problems and examples throughout.