

Optimal Pmu Placement In Power System Considering The

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Power System Observability - Reham H. Salem 2013

Phasor measurement units (PMUs) are considered as a promising tool for future monitoring, protection and control of power systems. One of the applications of phasor measurements is state estimation. The first step in state estimation is to gather measured data from different substations in a power network. These measurements must be sufficient to make the system observable. This book adopts three algorithms for minimizing the size of the PMU configuration while allowing full observability of the network; Depth First Search (DFS), Simulated Annealing (SA) and Minimum Spanning Tree (MST) algorithms. The applied methodologies included the system observability during normal operating conditions, as well as single branch forced outages in order to obtain a reliable system. The book also adopts two efficient heuristic techniques for optimal PMU placement; Greedy algorithm and Single Vertex Algorithm. To verify the effectiveness of the introduced algorithms, comparative studies are conducted on four test systems with encouraging results. The obtained results are compared with the results of other approaches from literature to demonstrate the effectiveness of the applied methods.

Multivariate T-Distributions and Their Applications - Samuel Kotz 2004-02-16

Almost all the results available in the literature on multivariate t-distributions published in the last 50 years are now collected together in this comprehensive reference. Because these distributions are becoming more prominent in many applications, this book is a must for any serious researcher or consultant working in multivariate analysis and statistical distributions. Much of this material has never before appeared in book form. The first part of the book emphasizes theoretical results of a probabilistic nature. In the second part of the book, these are supplemented by a variety of statistical aspects. Various generalizations and applications are dealt with in the final chapters. The material on estimation and regression models is of special value for practitioners in statistics and economics. A comprehensive bibliography of over 350 references is included.

Smart Technologies for Smart Cities - Mohammad M. Banat 2020-04-23

This book provides a scholarly forum for researchers both in academia and industry from a wide range of application areas of smart cities and smart technologies to share their research findings. This book presents contributions on emerging approaches and case studies including future technological trends and challenges. This book is intended for researchers and companies in several areas such as transportation, computer science, and electrical engineering, among others. The book is composed of extended versions of selected papers from the 1st International Conference on Smart Cities and Smart Technologies (MIC-Smart 2019), 7-9 June 2019 Istanbul Turkey. Presents research from a wide range of application

areas into smart cities and smart technologies; Includes topics such as smart devices, smart grid, and smart transportation and vehicles; Composed of extended versions of selected papers from the 1st International Conference on Smart Cities and Smart Technologies (MIC-Smart 2019).

Active Electrical Distribution Network - Sanjeevikumar Padmanaban 2022-07-01

Active Electrical Distribution Network: Issues, Solution Techniques and Applications is a comprehensive reference that addresses the issues and opportunities across one of the most overlooked sectors of the electrical industry, electrical distribution. The book begins with an introduction to electrical distribution networks, and then explores both present and future developments in the areas of smart grids, electric vehicles, micro grids, demand side response and active distribution networks. The ongoing transition of energy systems is also covered, providing recommendations for a higher penetration of renewable energy, utilization of new equipment and new network configurations, as well as development of new design and operation methods, and applications of new incentives and business models. The book closes with a section on optimizing operational issues, featuring guidance on optimal expansion planning of distribution systems in smart grids and optimization of photovoltaic (PV) systems. Active Electrical Distribution Network is an ideal reference for all those interested in the modeling, analysis, control, operation and planning techniques that are key to addressing the knowledge and information needs of the engineering and research audience. Includes different techniques under DSR concepts and solutions to address home area management system problems Features various smart reactive power compensation techniques used for reactive power support Discusses different smart technologies implemented globally to improve the performance of the active distribution network

Applications of Computing, Automation and Wireless Systems in Electrical Engineering - Sukumar Mishra 2019-05-31

This book discusses key concepts, challenges and potential solutions in connection with established and emerging topics in advanced computing, renewable energy and network communications. Gathering edited papers presented at MARC 2018 on July 19, 2018, it will help researchers pursue and promote advanced research in the fields of electrical engineering, communication, computing and manufacturing.

Emerging Techniques in Power System Analysis - Zhaoyang Dong 2010-06-01

"Emerging Techniques in Power System Analysis" identifies the new challenges facing the power industry following the deregulation. The book presents emerging techniques including data mining, grid computing, probabilistic methods, phasor measurement unit (PMU) and how to apply those techniques to solving the technical challenges. The book is intended for engineers and managers in the power industry, as well as power engineering researchers and graduate students. Zhaoyang Dong is

an associate professor at the Department of Electrical Engineering, The Hong Kong Polytechnic University, China. Pei Zhang is program manager at the Electric Power Research Institute (EPRI), USA.

Advances in Electrical Control and Signal Systems - Gayadhar Pradhan 2020-07-01

This book presents select proceedings of the International Conference on Advances in Electrical Control and Signal Systems (AECSS) 2019. The focus is on the current developments in control and signal systems in electrical engineering, and covers various topics such as power systems, energy systems, micro grid, smart grid, networks, fuzzy systems and their control. The book also discusses various properties and performance of signal systems and their applications in different fields. The contents of this book can be useful for students, researchers as well as professionals working in power and energy systems, and other related fields.

Advances in Communication, Devices and Networking - Sourav Dhar 2022

This book covers recent trends in the field of devices, wireless communication and networking. It gathers selected papers presented at the 5th International Conference on Communication, Devices and Networking (ICCDN 2021), which was organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India, on 15-16 December 2021. Gathering cutting-edge research papers prepared by researchers, engineers and industry professionals, it will help young and experienced scientists and developers alike to explore new perspectives and offer them inspirations on how to address real-world problems in the areas of electronics, communication, devices and networking.

State Estimation in Electric Power Systems - A. Monticelli 2012-12-06

State Estimation in Electric Power Systems: A Generalized Approach provides for the first time a comprehensive introduction to the topic of state estimation at an advanced textbook level. The theory as well as practice of weighted least squares (WLS) is covered with significant rigor. Included are an in depth analysis of power flow basics, proper justification of Stott's decoupled method, observability theory and matrix solution methods. In terms of practical application, topics such as bad data analysis, combinatorial bad data analysis and multiple snap shot estimation are covered. The book caters both to the specialist as well as the newcomer to the field. State estimation will play a crucial role in the emerging scenario of a deregulated power industry. Many market decisions will be based on knowing the present state of the system accurately. State Estimation in Electric Power Systems: A Generalized Approach crystallizes thirty years of WLS state estimation theory and practice in power systems and focuses on techniques adopted by state estimation developers worldwide. The book also reflects the experience of developing industrial-grade state estimation software that is used in the USA, South America, and many other places in world.

Handbook of Research on Power and Energy System Optimization - Kumar, Pawan 2018-03-16

In recent years, the development of advanced structures for providing sustainable energy has been a topic at the forefront of public and political conversation. Many are looking for advancements on pre-existing sources and new and viable energy options to maintain a modern lifestyle. The Handbook of Research on Power and Energy System Optimization is a critical scholarly resource that examines the usage of energy in relation to the perceived standard of living within a country and explores the importance of energy structure augmentation. Featuring coverage on a wide range of topics including energy management, micro-grid, and distribution generation, this publication is targeted towards researchers, academicians, and students seeking relevant research on the augmentation of

current energy structures to support existing standards of living.

Sustainable Technology and Advanced Computing in Electrical Engineering - Vasundhara Mahajan 2022-12-04

The book includes peer-reviewed papers of the International Conference on Sustainable Technology and Advanced Computing in Electrical Engineering (ICSTACE 2021). The main focus of the book is electrical engineering. The conference aims to provide a global platform to the researchers for sharing and showcasing their discoveries/findings/innovations. The book focuses on the areas related to sustainable development and includes research works from academicians and industry experts. The book discusses new challenges and provides solutions at the interface of technology, information, complex systems, and future research directions.

Symmetry in Mechanical Engineering - Adam Glowacz 2020-06-03

Recent advancements in mechanical engineering are an essential topic for discussion. The topics relating to mechanical engineering include the following: measurements of signals of shafts, springs, belts, bearings, gears, rotors, machine elements, vibration analysis, acoustic analysis, fault diagnosis, construction, analysis of machine operation, analysis of smart-material systems, integrated systems, stresses, analysis of deformations, analysis of mechanical properties, signal processing of mechanical systems, and rotor dynamics. Mechanical engineering deals with solid and fluid mechanics, rotation, movements, materials, and thermodynamics. This book, with 15 published articles, presents the topic "Symmetry in Mechanical Engineering". The presented topic is interesting. It is categorized into eight different sections: Deformation; Stresses; Mechanical properties; Tribology; Thermodynamic; Measurement; Fault diagnosis; Machine. The development of techniques and methods related to mechanical engineering is growing every month. The described articles have made a contribution to mechanical engineering. The proposed research can find applications in factories, oil refineries, and mines. It is essential to develop new improved methods, techniques, and devices related to mechanical engineering.

Wide Area Power Systems Stability, Protection, and Security - Hassan Haes Alhelou 2020-09-21

This book proposes new control and protection schemes to improve the overall stability and security of future wide-area power systems. It focuses on the high penetration levels of renewable energy sources and distributed generation, particularly with the trend towards smart grids. The control methods discussed can improve the overall stability in normal and abnormal operation conditions, while the protection methods presented can be used to ensure the secure operation of systems under most severe contingencies. Presenting stability, security, and protection methods for power systems in one concise volume, this book takes the reader on a journey from concepts and fundamentals to the latest and future trends in each topic covered, making it an informative and intriguing read for researchers, graduate students, and practitioners alike.

Power System State Estimation - Ali Abur 2004-03-24

Offering an up-to-date account of the strategies utilized in state estimation of electric power systems, this text provides a broad overview of power system operation and the role of state estimation in overall energy management. It uses an abundance of examples, models, tables, and guidelines to clearly examine new aspects of state estimation, the testing of network observability, and methods to assure computational efficiency. Includes numerous tutorial examples that fully analyze problems posed by the inclusion of current measurements in existing state estimators and illustrate practical solutions to these challenges. Written by two

expert researchers in the field, Power System State Estimation extensively details topics never before covered in depth in any other text, including novel robust state estimation methods, estimation of parameter and topology errors, and the use of ampere measurements for state estimation. It introduces various methods and computational issues involved in the formulation and implementation of the weighted least squares (WLS) approach, presents statistical tests for the detection and identification of bad data in system measurements, and reveals alternative topological and numerical formulations for the network observability problem.

Synchronized Phasor Measurements and Their Applications - A.G. Phadke 2008-08-15

This book provides an account of the field of synchronized Phasor Measurement technology, its beginning, its technology and its principal applications. It covers wide Area Measurements (WAM) and their applications. The measurements are done using GPS systems and eventually will replace the existing technology. The authors created the field about twenty years ago and most of the installations planned or now in existence around the world are based on their work.

Emerging Technologies for the Energy Systems of the Future - Amjad Anvari-Moghaddam 2021-08-30

Energy systems are transiting from conventional energy systems to modernized and smart energy systems. This Special Issue covers new advances in the emerging technologies for modern energy systems from both technical and management perspectives. In modern energy systems, an integrated and systematic view of different energy systems, from local energy systems and islands to national and multi-national energy hubs, is important. From the customer perspective, a modern energy system is required to have more intelligent appliances and smart customer services. In addition, customers require the provision of more useful information and control options. Another challenge for the energy systems of the future is the increased penetration of renewable energy sources. Hence, new operation and planning tools are required for hosting renewable energy sources as much as possible.

Smart Power Grids 2011 - Ali Keyhani 2012-01-12

Electric power systems are experiencing significant changes at the worldwide scale in order to become cleaner, smarter, and more reliable. This edited book examines a wide range of topics related to these changes, which are primarily caused by the introduction of information technologies, renewable energy penetration, digitalized equipment, new operational strategies, and so forth. The emphasis will be put on the modeling and control of smart grid systems. The book addresses research topics such as high efficiency transformers, wind turbines and generators, fuel cells, or high speed turbines and generators.

Computer Networks and Inventive Communication Technologies - S. Smys 2021-06-02

This book is a collection of peer-reviewed best selected research papers presented at 3rd International Conference on Computer Networks and Inventive Communication Technologies (ICCNCT 2020). The book covers new results in theory, methodology, and applications of computer networks and data communications. It includes original papers on computer networks, network protocols and wireless networks, data communication technologies, and network security. The proceedings of this conference is a valuable resource, dealing with both the important core and the specialized issues in the areas of next generation wireless network design, control, and management, as well as in the areas of protection, assurance, and trust in information security practice. It is a reference for researchers, instructors, students, scientists, engineers, managers, and industry practitioners

for advance work in the area.

Power System Optimization Modeling in GAMS - Alireza Soroudi 2017-08-29

This unique book describes how the General Algebraic Modeling System (GAMS) can be used to solve various power system operation and planning optimization problems. This book is the first of its kind to provide readers with a comprehensive reference that includes the solution codes for basic/advanced power system optimization problems in GAMS, a computationally efficient tool for analyzing optimization problems in power and energy systems. The book covers theoretical background as well as the application examples and test case studies. It is a suitable reference for dedicated and general audiences including power system professionals as well as researchers and developers from the energy sector and electrical power engineering community and will be helpful to undergraduate and graduate students.

Artificial Intelligence Applications in Electrical Transmission and Distribution Systems Protection - Almoataz Y. Abdelaziz 2021-10-22

Artificial intelligence (AI) can successfully help in solving real-world problems in power transmission and distribution systems because AI-based schemes are fast, adaptive, and robust and are applicable without any knowledge of the system parameters. This book considers the application of AI methods for the protection of different types and topologies of transmission and distribution lines. It explains the latest pattern-recognition-based methods as applicable to detection, classification, and location of a fault in the transmission and distribution lines, and to manage smart power systems including all the pertinent aspects.

FEATURES Provides essential insight on uses of different AI techniques for pattern recognition, classification, prediction, and estimation, exclusive to power system protection issues Presents an introduction to enhanced electricity system analysis using decision-making tools Covers AI applications in different protective relaying functions Discusses issues and challenges in the protection of transmission and distribution systems Includes a dedicated chapter on case studies and applications This book is aimed at graduate students, researchers, and professionals in electrical power system protection, stability, and smart grids.

Control Applications in Modern Power System - Arun Kumar Singh 2020-11-26

This book presents select proceedings of the Electric Power and Renewable Energy Conference 2020 (EPREC 2020). This book provides rigorous discussions, case studies, and recent developments in emerging areas of control systems, especially, load frequency control, wide-area monitoring, control & instrumentation, optimization, intelligent control, energy management system, SCADA systems, etc. The contents of this book will be useful to researchers and professionals interested in control theory and its applications to power grids and systems. The book can also be used by policy makers and power engineers involved in power generation and distribution.

Phasor Measurement Units and Wide Area Monitoring Systems - Antonello Monti 2016-06-09

Phasor Measurement Units and Wide Area Monitoring Systems presents complete coverage of phasor measurement units (PMUs), bringing together a rigorous academic approach and practical considerations on the implementation of PMUs to the power system. In addition, it includes a complete theory and practice of PMU technology development and implementation in power systems. Presents complete coverage of the topic from the measurement to the system, bringing together a rigorous academic approach and practical considerations on the implementation of PMUs to the power system Includes a complete proposal of implementation for a PMU platform that

could be replicated in every laboratory Covers PMU software compiled for National Instrument HW, a compiled monitoring platform to be used to monitor PMU data and developed custom solutions, and a compiled National Instrument schematic to be executed within a SmartPhone app

Recent Advances in Power Systems - Om Hari Gupta 2020-10-15

This book presents select proceedings of Electric Power and Renewable Energy Conference 2020 (EPREC 2020). This book provides rigorous discussions, case studies, and recent developments in the emerging areas of the power system, especially, renewable energy conversion systems, distributed generations, microgrid, smart grid, HVDC & FACTS, power system protection, etc. The readers would be benefited in terms of enhancing their knowledge and skills in the domain areas. The book will be a valuable reference for beginners, researchers, and professionals interested in developments in the power system.

Artificial Intelligence Applications in Electrical Transmission and Distribution Systems Protection - Almoataz Y. Abdelaziz 2021-10-22

Artificial intelligence (AI) can successfully help in solving real-world problems in power transmission and distribution systems because AI-based schemes are fast, adaptive, and robust and are applicable without any knowledge of the system parameters. This book considers the application of AI methods for the protection of different types and topologies of transmission and distribution lines. It explains the latest pattern-recognition-based methods as applicable to detection, classification, and location of a fault in the transmission and distribution lines, and to manage smart power systems including all the pertinent aspects.

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Proceedings of the International Conference on Information Engineering, Management and Security 2015 - Vignesh Ramakrishnan 2015-08-13

ICIEMS 2015 is the conference aim is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Engineering Technology, Industrial Engineering, Application Level Security and Management Science. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

Optimization Methods Applied to Power Systems - Francisco G. Montoya 2019-07-26

This book presents an interesting sample of the latest advances in optimization techniques applied to electrical power engineering. It covers a variety of topics from various fields, ranging from classical optimization such as Linear and Nonlinear Programming and Integer and Mixed-Integer Programming to the most modern methods based on bio-inspired metaheuristics. The featured papers invite readers to delve further into emerging optimization techniques and their real application to case studies such as conventional and renewable energy generation, distributed generation, transport and distribution of electrical energy, electrical machines and power electronics, network optimization, intelligent systems, advances in electric mobility, etc.

Advanced Smart Grid Functionalities Based on PowerFactory - Francisco Gonzalez-Longatt 2017-12-29

This book consolidates some of the most promising advanced smart grid functionalities and provides a comprehensive set of guidelines for their implementation/evaluation using DIgSILENT Power Factory. It includes specific aspects of modeling, simulation and analysis, for example wide-area monitoring, visualization and control, dynamic capability rating, real-time load measurement and management, interfaces and co-simulation for modeling and simulation of hybrid systems. It also presents key advanced features of modeling and automation of calculations using PowerFactory, such as the use of domain-specific (DSL) and DIgSILENT Programming (DPL) languages, and utilizes a variety of methodologies including theoretical explanations, practical examples and guidelines. Providing a concise compilation of significant outcomes by experienced users and developers of this program, it is a valuable resource for postgraduate students and engineers working in power-system operation and planning.

Modern Optimization Techniques for Smart Grids - Adel Ali Abou El-Ela 2022-10-17

Modern Optimization Techniques for Smart Grids presents current research and methods for monitoring transmission systems and enhancing distribution system performance using optimization techniques considering the role of different single and multi-objective functions. The authors present in-depth information on integrated systems for smart transmission and distribution, including using smart meters such as phasor measurement units (PMUs), enhancing distribution system performance using the optimal placement of distributed generations (DGs) and/or capacitor banks, and optimal capacitor placement for power loss reduction and voltage profile improvement. The book will be a valuable reference for researchers, students, and engineers working in electrical power engineering and renewable energy systems. Predicts future development of hybrid power systems; Introduces enhanced optimization strategies; Includes MATLAB M-file codes.

2020 IEEE 17th India Council International Conference (INDICON) - IEEE Staff 2020-12-10

INDICON is basically flagship conference of IEEE India Council in the field of Computer Science and Engineering (CSE), Electrical Engineering (EE), Electronics and Communication Engineering (ECE) It is proposed to have several parallel tracks corresponding to each of these three fields Theme of INDICON2020 is Technology Intervention to Build Future Ready Society with the following tracks Track 1 Computer and Information Technology Track 2 Electronics and Nanotechnology Track 3 Power and Energy Track 4 Communications and Signal Processing Track 5 Control and Instrumentation

Computer Aided State Estimation of Electric Power Network - Subramanian Srikrishna 2020-08-01

Computer Aided State Estimation of Electric Power Networks is a fundamental introduction to the topic of state estimation at an advanced textbook level for teaching a course at either the graduate or undergraduate level, as well as for Post Graduate students and Research Scholars who want to review of the latest techniques and best mathematical approaches for estimating the state of a general system. Theory as well as practice of Distribution System State Estimation (DSSE) is covered with imperative rigidity. The authors present the theory of state estimation clearly providing the right amount of essential information and linked reports in order to enable the researchers and graduate students to apply state estimation techniques across a variety of fields in power systems engineering. A prerequisite knowledge of basic power system operation, control, data acquisition

and measurement, in addition to basic statistics is helpful in understanding the book. Key Features include: • Advanced Topics based on Cloud Computing and Standards used for Preparation of Smart Grid • Provides Entire Coding Information for Estimating the State Estimation Topology Performance • Enables both the Researchers and Graduate Students for Pursuing their Research Projects • Covers the Important Topics on Data Attacks and Solution Strategy • Provides an Introduction to Distribution System State Estimation This book includes new contents like Distribution System State Estimation, Data Attacks, Defense strategies, with an introduction to large scale systems based on cloud computing, and an MATLAB training package for graduate students

Deregulated Electricity Market - Baseem Khan 2022-10-13

Energy demand will increase by 70% by the year of 2030, and with the continual day-by-day depletion of traditional energy sources, there is a vast need to continue the development of dependable renewable energy sources that are locally available and that enhance energy generation efficiency. This important resource presents the topical issues of the deregulated electricity market, focusing on the integration of renewable sources with engineering approaches. The volume identifies and explores the deregulated electricity markets and looks at different renewable generation techniques and their operation and control issues. It considers the various power quality issues with renewable energy generation interfaced with smart grids and their solution techniques. It also addresses the various integration challenges of energy storage systems and energy management of electric vehicles in the smart grid environment. Topics include methods for frequency, angle, and voltage monitoring in smart grids; load frequency and voltage control pricing; grid integration of wind energy generation systems; tracking and management techniques; performance analysis; and more. This volume is an important resource for scientists, researchers, students, and academicians across the globe concerned with adopting and implementing novel research on smart power grids and renewable energy systems.

Advances in Applied Nonlinear Dynamics, Vibration and Control -2021 - Xingjian Jing 2021-09-23

This book is to provide readers with up-to-date advances in applied and interdisciplinary engineering science and technologies related to nonlinear dynamics, vibration, control, robotics, and their engineering applications, developed in the most recent years. All the contributed chapters come from active scholars in the area, which cover advanced theory & methods, innovative technologies, benchmark experimental validations and engineering practices. Readers would benefit from this state-of-the-art collection of applied nonlinear dynamics, in-depth vibration engineering theory, cutting-edge control methods and technologies, and definitely find stimulating ideas for their on-going R&D work. This book is intended for graduate students, research staff and scholars in academics, and also provides useful hand-up guidance for professional and engineers in practical engineering missions.

Applying Particle Swarm Optimization - Burcu Adıgüzel Mercangöz 2021-05-13

This book explains the theoretical structure of particle swarm optimization (PSO) and focuses on the application of PSO to portfolio optimization problems. The general goal of portfolio optimization is to find a solution that provides the highest expected return at each level of portfolio risk. According to H. Markowitz's portfolio selection theory, as new assets are added to an investment portfolio, the total risk of the portfolio's decreases depending on the correlations of asset returns, while the expected return on the portfolio

represents the weighted average of the expected returns for each asset. The book explains PSO in detail and demonstrates how to implement Markowitz's portfolio optimization approach using PSO. In addition, it expands on the Markowitz model and seeks to improve the solution-finding process with the aid of various algorithms. In short, the book provides researchers, teachers, engineers, managers and practitioners with many tools they need to apply the PSO technique to portfolio optimization.

2019 21st International Middle East Power Systems Conference (MEPCON) - IEEE Staff 2019-12-17

The scope of the conference will cover the following 1 Power system planning & operation 2 Electrical machines & drives 3 Power electronics applications 4 High voltage engineering 5 Power system protection & security 6 Power system control and stability 7 Smart grids and micro grids 8 HVDC & FACTS 9 Nuclear power plants 10 Development of transmission and distribution systems 11 Renewable energy systems and grid integration 12 Energy efficiency and management 13 Application of AI in power systems 14 Power quality 15 Power system asset management 16 Development of power system education programs

Information Engineering and Applications - Rongbo Zhu 2011-11-13

In past twenty years or so, information technology has influenced and changed every aspect of our lives and our cultures. Without various IT-based applications, we would find it difficult to keep information stored securely, to process information and business efficiently, and to communicate information conveniently. In the future world, ITs and information engineering will play a very important role in convergence of computing, communication, business and all other computational sciences and application and it also will influence the future world's various areas, including science, engineering, industry, business, law, politics, culture and medicine. The International Conference on Information Engineering and Applications (IEA) 2011 is intended to foster the dissemination of state-of-the-art research in information and business areas, including their models, services, and novel applications associated with their utilization. International Conference on Information Engineering and Applications (IEA) 2011 is organized by Chongqing Normal University, Chongqing University, Shanghai Jiao Tong University, Nanyang Technological University, University of Michigan and the Chongqing University of Arts and Sciences, and is sponsored by National Natural Science Foundation of China (NSFC). The objective of IEA 2011 is to will provide a forum for engineers and scientists in academia, industry, and government to address the most innovative research and development . Information Engineering and Applications provides a summary of this conference including contributions for key speakers on subjects such as technical challenges, social and economic issues, and ideas, results and current work on all aspects of advanced information and business intelligence.

Innovations in Electronics and Communication Engineering - H. S. Saini 2018-08-28

The book is a collection of best selected research papers presented at 6th International Conference on Innovations in Electronics and Communication Engineering at Guru Nanak Institutions Hyderabad, India. The book presents works from researchers, technocrats and experts about latest technologies in electronic and communication engineering. The book covers various streams of communication engineering like signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general. The authors have discussed the latest cutting edge technology and the volume will serve as a reference for young researchers.

Advances in Automation, Signal Processing, Instrumentation, and Control - Venkata Lakshmi Narayana Komanapalli 2021-03-04

This book presents the select proceedings of the International Conference on Automation, Signal Processing, Instrumentation and Control (i-CASIC) 2020. The book mainly focuses on emerging technologies in electrical systems, IoT-based instrumentation, advanced industrial automation, and advanced image and signal processing. It also includes studies on the analysis, design and implementation of instrumentation systems, and high-accuracy and energy-efficient controllers. The contents of this book will be useful for beginners, researchers as well as professionals interested in instrumentation and control, and other allied fields.

Optimizing and Measuring Smart Grid Operation and Control - Reციoui, Abdelmadjid 2020-11-13

Smart grid (SG), also called intelligent grid, is a modern improvement of the traditional power grid that will revolutionize the way electricity is produced, delivered, and consumed. Studying key concepts such as advanced metering infrastructure, distribution management systems, and energy management systems will support the design of a cost-effective, reliable, and efficient supply system, and will create a real-time bidirectional communication means and information exchange between the consumer and the grid operator of electric power. Optimizing and Measuring Smart Grid Operation and Control is a critical reference source that presents recent research on the operation, control, and optimization of smart grids. Covering topics that include phase measurement units, smart metering, and synchrophasor technologies, this book examines all aspects of modern

smart grid measurement and control. It is designed for engineers, researchers, academicians, and students.

Intelligent Communication, Control and Devices - Sushabhan Choudhury 2019-08-28
The book focuses on the integration of intelligent communication systems, control systems, and devices related to all aspects of engineering and sciences. It includes high-quality research papers from the 3rd international conference, ICICCD 2018, organized by the Department of Electronics, Instrumentation and Control Engineering at the University of Petroleum and Energy Studies, Dehradun on 21–22 December 2018. Covering a range of recent advances in intelligent communication, intelligent control and intelligent devices., the book presents original research and findings as well as researchers' and industrial practitioners' practical development experiences of.

Handbook of Research on Emergent Applications of Optimization Algorithms - Vasant, Pandian 2017-10-31

Modern optimization approaches have attracted an increasing number of scientists, decision makers, and researchers. As new issues in this field emerge, different optimization methodologies must be developed and implemented. The Handbook of Research on Emergent Applications of Optimization Algorithms is an authoritative reference source for the latest scholarly research on modern optimization techniques for solving complex problems of global optimization and their applications in economics and engineering. Featuring coverage on a broad range of topics and perspectives such as hybrid systems, non-cooperative games, and cryptography, this publication is ideally designed for students, researchers, and engineers interested in emerging developments in optimization algorithms.