

Transformer Tests Using Matlab Simulink And Their

This Special Issue “Grid-to-Vehicle (G2V) and Vehicle-to-Grid (V2G) Technologies” was in session from 1 May 2019 to 31 May 2020. For this Special issue, we invited articles on current state-of-the-art technologies and solutions in G2V and V2G, including but not limited to the operation and control of gridable vehicles, energy storage and management systems, charging infrastructure and chargers, EV demand and load forecasting, V2G interfaces and applications, V2G and energy reliability and security, environmental impacts, and economic benefits as well as demonstration projects and case studies in the aforementioned areas. Articles that deal with the latest hot topics in V2G are of particular interest, such as V2G and demand-side response control technique, smart charging infrastructure and grid planning, advanced power electronics for V2G systems, adaptation of V2G systems in the smart grid, adaptation of smart cities for a large number of EVs, integration, and the optimization of V2G systems, utilities and transportation assets for advanced V2G systems, wireless power transfer systems for advanced V2G systems, fault detection, maintenance and diagnostics in V2G processes, communications protocols for V2G systems, energy management system (EMS) in V2G systems, IoT for V2G systems, distributed energy and storage systems for V2G, transportation networks and V2G, energy management for V2G, smart charging/discharging stations for efficient V2G, environmental and socio-

economic benefits and challenges of V2G systems, and building integrated V2G systems (BIV2G). Five manuscripts are published in this Special Issue, including “An Ensemble Stochastic Forecasting Framework for Variable Distributed Demand Loads” by Agyeman et al., “Where Will You Park? Predicting Vehicle Locations for Vehicle-to-Grid, An MPC Scheme with Enhanced Active Voltage Vector Region for V2G Inverter” by Shipman et al., “Electric Vehicles Energy Management with V2G/G2V Multifactor Optimization of Smart Grids” by Xia et al., and “A Review on Communication Standards and Charging Topologies of V2G and V2H Operation Strategies” by Savitti et al.

This book presents recent progresses in control, automation, robotics and measuring techniques. It includes contributions of top experts in the fields, focused on both theory and industrial practice. The particular chapters present a deep analysis of a specific technical problem which is in general followed by a numerical analysis and simulation and results of an implementation for the solution of a real world problem. The presented theoretical results, practical solutions and guidelines will be useful for both researchers working in the area of engineering sciences and for practitioners solving industrial problems.

Power quality is a very broad subject, covering all stages of power systems engineering, from the generation, transmission, and distribution levels to the end-users. This book contains a selection of the best papers on power quality presented at the

International Conferences on Renewable Energy and Power Quality from 2003 to 2012. The volume represents a unique selection of the best contributions to power quality exploitation and evolution over the past decade. As such, it provides an up-to-date reference point for researchers, technicians and engineering interested in the state of the field of power quality. This book will primarily interest professional engineers and researchers dealing with power quality, but will also prove useful to postgraduate level students. It can also be used as a reference book for engineers, physicists and mathematicians interested and involved in operation, project management, design, and analysis of power quality issues. Each chapter contains references that allow the treated topic to be further deepened.

Computational Methods for the Innovative Design of Electrical Devices is entirely focused on the optimal design of various classes of electrical devices. Emerging new methods, like e.g. those based on genetic algorithms, are presented and applied in the design optimization of different devices and systems. Accordingly, the solution to field analysis problems is based on the use of finite element method, and analytical methods as well. An original aspect of the book is the broad spectrum of applications in the area of electrical engineering, especially electrical machines. This way, traditional design criteria of conventional devices are revisited in a critical way, and some innovative solutions are suggested. In particular, the optimization procedures developed are oriented to three main aspects: shape design, material properties identification,

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machine optimal behaviour. Topics covered include: • New parallel finite-element solvers • Response surface method • Evolutionary computing • Multiobjective optimization • Swarm intelligence • MEMS applications • Identification of magnetic properties of anisotropic laminations • Neural networks for non-destructive testing • Brushless DC motors, transformers • Permanent magnet disc motors, magnetic separators • Magnetic levitation systems

The modern electric power system has evolved into a huge nonlinear complex system due to the interconnection of thousands of generation and transmission systems. The unparalleled growth of renewable energy resources (RESs) has caused significant concern regarding grid stability and power quality, and it is essential to find ways to control such a massive system for effective operation. The controllability of HVDC and FACTS devices allows for improvement of the dynamic behavior of grids and their flexibility. Research is being carried out at both the system and component levels of modelling, control, and stability. This Special Issue aims to present novel HVDC topologies and operation strategies to prevent abnormal grid conditions.

The book gathers a collection of high-quality peer-reviewed research papers presented at the International Conference on Data and Information Systems (ICDIS 2017), held at Indira Gandhi National Tribal University, India from November 3 to 4, 2017. The book covers all aspects of computational sciences and information security. In chapters written by leading researchers, developers and practitioner from academia and

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industry, it highlights the latest developments and technical solutions, helping readers from the computer industry capitalize on key advances in next-generation computer and communication technology.

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.

Issues in Energy Conversion, Transmission, and Systems: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Energy Conversion, Transmission, and Systems. The editors have built *Issues in Energy Conversion, Transmission, and Systems: 2011 Edition* on the vast information databases of ScholarlyNews.™ You can expect the information about Energy Conversion, Transmission, and Systems in this eBook to be deeper than what you can access anywhere else, as well as

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consistently reliable, authoritative, informed, and relevant. The content of Issues in Energy Conversion, Transmission, and Systems: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Technological Developments in Networking, Education and Automation includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the following areas: Computer Networks: Access Technologies, Medium Access Control, Network architectures and Equipment, Optical Networks and Switching, Telecommunication Technology, and Ultra Wideband Communications. Engineering Education and Online Learning: including development of courses and systems for engineering, technical and liberal studies programs; online laboratories; intelligent testing using fuzzy logic; taxonomy of e-courses; and evaluation of online courses. Pedagogy: including benchmarking; group-learning; active learning; teaching of multiple subjects together; ontology; and knowledge management. Instruction Technology: including internet textbooks; virtual reality labs, instructional design, virtual models, pedagogy-oriented markup languages; graphic design possibilities; open source classroom management software; automatic email response systems; tablet-pcs; personalization using web mining technology; intelligent digital chalkboards; virtual room concepts for cooperative scientific work; and network technologies, management, and architecture. Coding and Modulation: Modeling and Simulation, OFDM

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technology , Space-time Coding, Spread Spectrum and CDMA Systems. Wireless technologies: Bluetooth , Cellular Wireless Networks, Cordless Systems and Wireless Local Loop, HIPERLAN, IEEE 802.11, Mobile Network Layer, Mobile Transport Layer, and Spread Spectrum. Network Security and applications: Authentication Applications, Block Ciphers Design Principles, Block Ciphers Modes of Operation, Electronic Mail Security, Encryption & Message Confidentiality, Firewalls, IP Security, Key Cryptography & Message Authentication, and Web Security. Robotics, Control Systems and Automation: Distributed Control Systems, Automation, Expert Systems, Robotics, Factory Automation, Intelligent Control Systems, Man Machine Interaction, Manufacturing Information System, Motion Control, and Process Automation. Vision Systems: for human action sensing, face recognition, and image processing algorithms for smoothing of high speed motion. Electronics and Power Systems: Actuators, Electro-Mechanical Systems, High Frequency Converters, Industrial Electronics, Motors and Drives, Power Converters, Power Devices and Components, and Power Electronics.

Discusses the research work aims at simulating FRA processes by injecting a controllable pulse signal as a test signal to the transformer winding under test and then use T-test and F-test statistical techniques as an additional tool for analysis of the filtered results. The process will be based on the concept of OWA and the specific objectives are: 1. To mathematically analyse the model of the lumped parameter characteristics of the power transformer. 2. To represent the geometric and the circuit equivalent model of the power transformer in FEA software. 3. To simulate the power transformer FEA model in AC Magnetic mode and transient mode in order to ensure the power rating of the transformer and the nature of the sine wave

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respectively. 4. To simulate the power transformer FEA model in transient magnetic mode with the presence of an impulse signal as a test signal. 5. To carry out spectral analysis and filtering processes of the results in Matlab and Simulink software. 6. To apply a statistical technique in order to draw a final conclusion of the condition of the three phases of the power transformer. This book focuses on oil-paper insulation included in power transformers, especially for EHV and UHV transformers. The importance on insulation ever increased due to a growing voltage rating of transformers. Within the last decades, although research on the transformer insulation and diagnosis methods has advanced a lot, the insulation of HV transformers remained more or less unchanged. The book is divided into five chapters; the first and second chapters explain the basics of oil insulation, while the third chapter focuses on paper insulation. The final two chapters deal with the methods and outcome of testing both techniques. The primary target audience for this book is graduate students and power system engineers.

This text is written for use in a second course in circuit analysis. It encompasses a spectrum of subjects ranging from the most abstract to the most practical, and the material can be covered in one semester or two quarters. The reader of this book should have the traditional undergraduate knowledge of an introductory circuit analysis material such as Circuit Analysis I with MATLAB Computing and Simulink/ SimPowerSystems Modeling, ISBN 978-1-934404-17-1. Another prerequisite would be a basic knowledge of differential equations, and in most cases, engineering students at this level have taken all required mathematics courses. Appendix H serves as a review of differential equations with emphasis on engineering related topics and it is recommended for readers who may need a review of this subject.

There are a number of books in the market about wind energy, turbine controllers, modelling

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and different aspects of integration of Wind Farm Power Plants (WPP) to grids. But none of these books meets the expectations of design and field engineers/technicians to address directly the setting and design philosophy of different Intelligent Electronic Devices (IED) of WPP networks. This book provides practical applications of numerical relays for protection and control of different parts of onshore & offshore WPP network namely wind turbine generator, collector feeder and EHV interconnection transmission line to grid. In addition required changes to existing special protection system (SPS) and run-back scheme by adding a new WPP are discussed. The topology and characteristics of WPP networks are different from convectional one for both onshore and offshore WPP. In addition the fault current contribution from wind farm generators are low (1.1-1.2 pu). These causes significant challenge for setting and design of IEDs of WPP in order to meet the common industry practice requirement with respect to reliability, sensitivity, stability, security and grading coordination. The author believes that this book may be unique with respect to addressing these challenges and provision of the mitigation techniques to rectify the deficiencies of existing industry practice which otherwise have not been discussed for real systems in any other book. The content of this book have been successfully applied in the field for various WPPs projects and consequently can be used as a practical guideline for implementation for future projects. The content of the book covers Principal of Operation of WPP , Modelling of different com ponents of WPP, Short Circuit current and voltage characteristics of different type of wind turbine generators, Setting and Design of Protection systems of WPP Network , Design of Control systems of WPP, Lightning and Overvoltage Protection of WPP and Analysis of Disturbance on the WPP networks

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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

This book deals with several selected aspects of electric power quality issues typically faced during grid integration processes of contemporary renewable energy sources. In subsequent chapters of this book the reader will be familiarized with the issues related to voltage and current harmonics and inter-harmonics generation and elimination, harmonic emission of switch-mode rectifiers, reactive power flow control in power system with non-linear loads, modeling and simulation of power quality issues in power grid, advanced algorithms used for estimating harmonic components, and new methods of

measurement and analysis of real time accessible power quality related data. A comprehensive text, combining all important concepts and topics of Electrical Machines and featuring exhaustive simulation models based on MATLAB/Simulink Electrical Machine Fundamentals with Numerical Simulation using MATLAB/Simulink provides readers with a basic understanding of all key concepts related to electrical machines (including working principles, equivalent circuit, and analysis). It elaborates the fundamentals and offers numerical problems for students to work through. Uniquely, this text includes simulation models of every type of machine described in the book, enabling students to design and analyse machines on their own. Unlike other books on the subject, this book meets all the needs of students in electrical machine courses. It balances analytical treatment, physical explanation, and hands-on examples and models with a range of difficulty levels. The authors present complex ideas in simple, easy-to-understand language, allowing students in all engineering disciplines to build a solid foundation in the principles of electrical machines. This book: Includes clear elaboration of fundamental concepts in the area of electrical machines, using simple language for optimal and enhanced learning Provides wide coverage of topics, aligning with the electrical machines syllabi of most international universities Contains extensive numerical problems and offers

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MATLAB/Simulink simulation models for the covered machine types Describes MATLAB/Simulink modelling procedure and introduces the modelling environment to novices Covers magnetic circuits, transformers, rotating machines, DC machines, electric vehicle motors, multiphase machine concept, winding design and details, finite element analysis, and more Electrical Machine Fundamentals with Numerical Simulation using MATLAB/Simulink is a well-balanced textbook perfect for undergraduate students in all engineering majors. Additionally, its comprehensive treatment of electrical machines makes it suitable as a reference for researchers in the field.

This thesis gives an overview of test bench design for inverter operated Medium Voltage (MV) drives with the focus on the active power measurement. The sources of measurement setup uncertainty are analysed and methods are shown to assess these uncertainties. Further, a possibility is shown to do quantitative uncertainty estimations which are verified with measurements through different measurement setups for MV drives operated with multilevel converters. The influence of measurement transducers, voltage dividers, power meters and data acquisition boards are considered. The digital signal processing is analysed and the possibilities to reduce its uncertainty contribution on an active power measurement is shown. An analysis is made with the conventional measurement

devices in the MV-range. The transfer behaviour of the devices and the characteristics of the uncertainty are investigated. Measurements are done on typical medium voltage drives with an uncertainty analysis, which shows the essential aspects of active power measurement. The results show the significance of a measurement setup performance. The investigations on the drives are used to indicate the impact on the determination of the drive efficiency and gives a significant input for further standardisation processes. The handling of measurement uncertainties during active power measurement of drives is shown concerning the permanent topic of energy saving and its efficient use. The work proposes a way of categorising electrical drives in energy efficiency classes and to make their determination comparable. Die vorliegende Dissertation gibt einen Überblick über den Prüfstandsaufbau von umrichtergetriebenen Mittelspannungsantrieben. Die Unsicherheitsquellen werden analysiert und Methoden werden aufgezeigt um die Messunsicherheit zu bewerten. Des Weiteren werden die Machbarkeit von Unsicherheitsabschätzungen gezeigt, welche mit Messungen an typischen Mittelspannungsantrieben mit Umrichterspeisung verglichen werden. Der Einfluss von Messwandlern, Spannungsteilern, Leistungsmessern und Messkarten zur Signalerfassung wird berücksichtigt. Die digitale Signalverarbeitung wird analysiert um den

Unsicherheitsbeitrag zur Wirkleistungsmessung zu reduzieren. Es werden konventionellen Messwandler und -teiler im Mittelspannungsbereich bezüglich ihres Übertragungsverhaltens sowie Messunsicherheiten untersucht. Die Ergebnisse der Untersuchungen verdeutlichen die Signifikanz eines performanten Messaufbaus. Des Weiteren werden Auswirkungen auf die Bestimmung der Effizienz aufgezeigt. Die Arbeit liefert einen wesentlichen Beitrag für weitere Standardisierungsprozesse. Der Umgang mit Messunsicherheiten der Wirkleistungsmessung wird betrachtet im Hinblick auf Energieeinsparpotenziale und deren effiziente Nutzung. Die Arbeit schlägt eine Möglichkeit vor, wie elektrische Antriebe in Energieeffizienzklassen kategorisiert werden können um diese vergleichbar zu machen.

The proceedings entitled “Concentrated Solar Thermal Technologies: Recent Trends and Applications” includes the peer-reviewed selected papers those are presented during NCSTET 2016. The sub-topics under concentrated solar thermal technologies and applications included in the book are Solar Field; Receiver and Heat Exchanger; Coating; Thermal Energy Storage; Cooling; Process Heat; and Smart Grid and Policy Research. The domains mentioned cover topics from resource-assessment, collection to conversion of solar energy for applications, like, heating, cooling and electricity. The proceedings also

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include invited lectures from domain experts. The edited work will be useful for beginners and for the advanced level researchers in the field of concentrated solar thermal technologies and their applications.

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This book consists of sixty-seven selected papers presented at the 2015 International Conference on Software Engineering and Information Technology (SEIT2015), which was held in Guilin, Guangxi, China during June 26–28, 2015. The SEIT2015 has been an important event and has attracted many scientists, engineers and researchers from academia, government laboratories and industry internationally. The papers in this book were selected after rigorous review. SEIT2015 focuses on six main areas, namely, Information Technology, Computer Intelligence and Computer Applications, Algorithm and Simulation, Signal and Image Processing, Electrical Engineering and Software Engineering. SEIT2015 aims to provide a platform for the global researchers and practitioners from both academia as well as industry to meet and share cutting-edge development in the field. This conference has been a valuable opportunity for researchers to share their knowledge and results in theory, methodology and applications of Software Engineering and Information Technology. Contents: Information Technology Computing Intelligence and Computer Applications Algorithm and Simulation Signal and Image Processing Electrical Engineering Software Engineering Readership: Researchers and graduate students interested in software engineering and information technology. Key Features: The proceedings

collected together R&D results undertaken by researchers in six areas, namely, Information Technology, Computer Intelligence and Computer Applications, Algorithm and Simulation, Signal and Image Processing, Electrical Engineering and Software Engineering

Keywords: Information Technology; Computer Intelligence and Computer Applications; Algorithm and Simulation; Signal and Image Processing; Electrical Engineering and Software Engineering

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Power electronics technology is still an emerging technology, and it has found its way into many applications, from renewable energy generation (i.e., wind power and solar power) to electrical vehicles (EVs), biomedical devices, and small appliances, such as laptop chargers. In the near future, electrical energy will be provided and handled by power electronics and consumed through power electronics; this not only will intensify the role of power electronics technology in power conversion processes, but also implies that power systems are undergoing a paradigm shift, from centralized distribution to distributed generation. Today, more than 1000 GW of renewable energy generation sources (photovoltaic (PV) and wind) have been installed, all of which are handled by power electronics technology. The main aim of this book is to highlight and address recent breakthroughs in the range of emerging applications in power electronics and in harmonic and electromagnetic interference (EMI) issues at device

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and system levels as discussed in ?robust and reliable power electronics technologies, including fault prognosis and diagnosis technique stability of grid-connected converters and ?smart control of power electronics in devices, microgrids, and at system levels. Provides the latest research on Power Plants, Power Systems Control Contains contributions written by experts in the field Part of the IFAC Proceedings Series which provides a comprehensive overview of the major topics in control engineering. The fourth volume titled 'Sensors and Applications in Measuring and Automation Control Systems' contains twenty four chapters with sensor related state-of-the-art reviews and descriptions of latest advances in sensor related area written by 81 authors from academia and industry from 5 continents and 20 countries: Australia, Austria, Brazil, Finland, France, Japan, India, Iraq, Italia, Mexico, Morocco, Portugal, Senegal, Serbia, South Africa, South Korea, Spain, UK, Ukraine and USA. Coverage includes current developments in physical sensors and transducers, chemical sensors, biosensors, sensing materials, signal conditioning, energy harvesters and sensor networks.

Unmanned aerial vehicles (UAVs) are being increasingly used in different applications in both military and civilian domains. These applications include surveillance, reconnaissance, remote sensing, target acquisition, border patrol, infrastructure monitoring, aerial imaging, industrial inspection, and emergency medical aid. Vehicles that can be considered autonomous must be able to make decisions and react to

events without direct intervention by humans. Although some UAVs are able to perform increasingly complex autonomous manoeuvres, most UAVs are not fully autonomous; instead, they are mostly operated remotely by humans. To make UAVs fully autonomous, many technological and algorithmic developments are still required. For instance, UAVs will need to improve their sensing of obstacles and subsequent avoidance. This becomes particularly important as autonomous UAVs start to operate in civilian airspaces that are occupied by other aircraft. The aim of this volume is to bring together the work of leading researchers and practitioners in the field of unmanned aerial vehicles with a common interest in their autonomy. The contributions that are part of this volume present key challenges associated with the autonomous control of unmanned aerial vehicles, and propose solution methodologies to address such challenges, analyse the proposed methodologies, and evaluate their performance. The book provides insights into International Conference on Intelligent Systems and Signal Processing (ISSP 2017) held at G.H. Patel College of Engineering & Technology, Gujarat, India during March 24-25, 2017. The book comprises contributions by the research scholars and academicians covering the topics in signal processing and communication engineering, applied electronics and emerging technologies, computer vision and machine learning, big data and cloud computing and advanced intelligent power electronics and drives systems. The main emphasis of the book is on dissemination of information, experience and research results on the current

topics of interest through in-depth discussions and contribution of researchers from all over world. The book is useful for research community, academicians, industrialists and post graduate students across the globe.

The volume includes a set of selected papers extended and revised from the 2011 International Conference on Computer, Communication, Control and Automation (3CA 2011). 2011 International Conference on Computer, Communication, Control and Automation (3CA 2011) has been held in Zhuhai, China, November 19-20, 2011. This volume topics covered include signal and Image processing, speech and audio Processing, video processing and analysis, artificial intelligence, computing and intelligent systems, machine learning, sensor and neural networks, knowledge discovery and data mining, fuzzy mathematics and Applications, knowledge-based systems, hybrid systems modeling and design, risk analysis and management, system modeling and simulation. We hope that researchers, graduate students and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process.

The utilization of renewable energy sources such as wind energy, or solar energy, among others, is currently of greater interest. Nevertheless, since their availability is arbitrary and unstable this can lead to frequency variation, to grid instability and to a total or partial loss of load power supply, being not appropriate sources to be directly connected to the main utility grid. Additionally, the presence of a static converter as output interface of the generating plants introduces voltage and current harmonics into the electrical system that negatively affect

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system power quality. By integrating distributed power generation systems closed to the loads in the electric grid, we can eliminate the need to transfer energy over long distances through the electric grid. In this book the reader will be introduced to different power generation and distribution systems with an analysis of some types of existing disturbances and a study of different industrial applications such as battery charges.

This book introduces innovative and interdisciplinary applications of advanced technologies. Featuring the papers from the 10th DAYS OF BHAAAS (Bosnian-Herzegovinian American Academy of Arts and Sciences) held in Jahorina, Bosnia and Herzegovina on June 21–24, 2018, it discusses a wide variety of engineering and scientific applications of the different techniques. Researchers from academic and industry present their work and ideas, techniques and applications in the field of power systems, mechanical engineering, computer modelling and simulations, civil engineering, robotics and biomedical engineering, information and communication technologies, computer science and applied mathematics.

This volume provides a complete record of presentations made at Industrial Engineering, Management Science and Applications 2015 (ICIMSA 2015), and provides the reader with a snapshot of current knowledge and state-of-the-art results in industrial engineering, management science and applications. The goal of ICIMSA is to provide an excellent international forum for researchers and practitioners from both academia and industry to share cutting-edge developments in the field and to exchange and distribute the latest research and theories from the international community. The conference is held every year, making it an ideal platform for people to share their views and experiences in industrial engineering, management science and applications related fields.

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This volume contains the Proceedings of the First International Congress? for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS-2017), held in Beirut, Lebanon, October 2017. The book consists of twenty papers in six different fields covering multiple angles of machine and robotics sciences: mechanical design, control, structural synthesis, vibration study, and manufacturing. This volume is of interest to mechanical as well as electrical engineers.

This book and its accompanying CD-ROM offer a complete treatment from background theory and models to implementation and verification techniques for simulations and linear analysis of frequently studied machine systems. Every chapter of Dynamic Simulation of Electric Machinery includes exercises and projects that can be explored using the accompanying software. A full chapter is devoted to the use of MATLAB and SIMULINK, and an appendix provides a convenient overview of key numerical methods used. Dynamic Simulation of Electric Machinery provides professional engineers and students with a complete toolkit for modeling and analyzing power systems on their desktop computers.

This book on power quality written by experts from industries and academics from various countries will be of great benefit to professionals, engineers and researchers. This book covers various aspects of power quality monitoring, analysis and power quality enhancement in transmission and distribution systems. Some of the key features of books are as follows: Wavelet and PCA to Power Quality Disturbance Classification applying a RBF Network; Power Quality Monitoring in a System with Distributed and Renewable Energy Sources; Signal Processing Application of Power Quality Monitoring; Pre-processing Tools and Intelligent Techniques for Power Quality Analysis; Single-Point Methods for Location of Distortion,

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Unbalance, Voltage Fluctuation and Dips Sources in a Power System; S-transform Based Novel Indices for Power Quality Disturbances; Load Balancing in a Three-Phase Network by Reactive Power Compensation; Compensation of Reactive Power and Sag Voltage using Superconducting Magnetic Energy Storage; Optimal Location and Control of Flexible Three Phase Shunt FACTS to Enhance Power Quality in Unbalanced Electrical Network; Performance of Modification of a Three Phase Dynamic Voltage Restorer (DVR) for Voltage Quality Improvement in Distribution System; Voltage Sag Mitigation by Network Reconfiguration; Intelligent Techniques for Power Quality Enhancement in Distribution Systems.

The theme of HumanCom and EMC is focused on the various aspects of human-centric computing for advances in computer science and its applications, embedded and multimedia computing and provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of human-centric computing. And the theme of EMC (Advanced in Embedded and Multimedia Computing) is focused on the various aspects of embedded system, smart grid, cloud and multimedia computing, and it provides an opportunity for academic, industry professionals to discuss the latest issues and progress in the area of embedded and multimedia computing. Therefore this book will include the various theories and practical applications in human-centric computing and embedded and multimedia computing.

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