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KEY=USING - CARLA JORDON

ELECTRICAL MACHINE ANALYSIS USING FINITE ELEMENTS

CRC Press **From the fan motor in your PC to precision control of aircraft, electrical machines of all sizes, varieties, and levels of complexity permeate our world. Some are very simple, while others require exacting and application-specific design. Electrical Machine Analysis Using Finite Elements provides the tools necessary for the analysis and design of any type of electrical machine by integrating mathematical/numerical techniques with analytical and design methodologies. Building successively from simple to complex analyses, this book leads you step-by-step through the procedures and illustrates their implementation with examples of both traditional and innovative machines. Although the examples are of specific devices, they demonstrate how the procedures apply to any type of electrical machine, introducing a preliminary theory followed by various considerations for the unique circumstance. The author presents the mathematical background underlying the analysis, but emphasizes application of the techniques, common strategies, and obtained results. He also supplies codes for simple algorithms and reveals analytical methodologies that universally apply to any software program. With step-by-step coverage of the fundamentals and common procedures, Electrical Machine Analysis Using Finite Elements offers a superior analytical framework that allows you to adapt to any electrical machine, to any software platform, and to any specific requirements that you may encounter.**

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CRC Press From the fan motor in your PC to precision control of aircraft, electrical machines of all sizes, varieties, and levels of complexity permeate our world. Some are very simple, while others require exacting and application-specific design. **Electrical Machine Analysis Using Finite Elements** provides the tools necessary for the analysis and design of any type of electrical machine by integrating mathematical/numerical techniques with analytical and design methodologies. Building successively from simple to complex analyses, this book leads you step-by-step through the procedures and illustrates their implementation with examples of both traditional and innovative machines. Although the examples are of specific devices, they demonstrate how the procedures apply to any type of electrical machine, introducing a preliminary theory followed by various considerations for the unique circumstance. The author presents the mathematical background underlying the analysis, but emphasizes application of the techniques, common strategies, and obtained results. He also supplies codes for simple algorithms and reveals analytical methodologies that universally apply to any software program. With step-by-step coverage of the fundamentals and common procedures, **Electrical Machine Analysis Using Finite Elements** offers a superior analytical framework that allows you to adapt to any electrical machine, to any software platform, and to any specific requirements that you may encounter.

ELECTRIC MACHINES

TRANSIENTS, CONTROL PRINCIPLES, FINITE ELEMENT ANALYSIS, AND OPTIMAL DESIGN WITH MATLAB®

CRC Press This Second Edition extensively covers advanced issues/subjects in electric machines, starting from principles, to applications and case studies with ample graphical (numerical) results. This textbook is intended for second (and third) semester courses covering topics such as modeling of transients, control principles, electromagnetic and thermal finite element analysis, and optimal design (dimensioning). Notable recent knowledge with strong industrialization potential has been added to this edition, such as: Orthogonal models of multiphase a.c. machines Thermal Finite Element Analysis of (FEA) electric machines FEA-based-only optimal design of a PM motor case study Line start synchronizing premium efficiency PM induction machines Induction machines (three and single phase), synchronous machines with DC excitation, with PM-excitation, and with magnetically salient rotor and a linear Pm oscillatory motor are all investigated in terms of transients, electromagnetic FEM analysis and control principles. Case studies, numerical examples, and lots of discussion of FEM results for PMSM and IM are included throughout the book. The optimal design is treated in detail using Hooke-Jeeves and GA algorithms

with case comparison studies in dedicated chapters for IM and PMSM. Numerous computer simulation programs in MATLAB® and Simulink® are available online that illustrate performance characteristics present in the chapters, and the FEM and optimal design case studies (and codes) may be used as homework to facilitate a deeper understanding of fundamental issues.

THE REDISCOVERY OF SYNCHRONOUS RELUCTANCE AND FERRITE PERMANENT MAGNET MOTORS

TUTORIAL COURSE NOTES

Springer This book offers an essential compendium on the analysis and design of synchronous motors for variable-speed applications. Focusing on synchronous reluctance and ferrite permanent-magnet (PM) synchronous reluctance machines, it provides a broad perspective on three-phase machines for variable speed applications, a field currently dominated by asynchronous machines and rare-earth PM synchronous machines. It also describes synchronous reluctance machines and PM machines without rare-earth materials, comparing them to state-of-the-art solutions. The book provides readers with extensive information on and finite element models of PM synchronous machines, including all relevant equations and with an emphasis on synchronous-reluctance and PM-assisted synchronous-reluctance machines. It covers ferrite-assisted machines, modeled as a subcase of PM-assistance, fractional slot combinations solutions, and a quantitative, normalized comparison of torque capability with benchmark PM machines. The book discusses a wealth of techniques for identifying machine parameters, with an emphasis on self-commissioning algorithms, and presents methods for automated machine design and optimization, including a software tool developed for this purpose. Addressing an important gap in the field of PM-less and less-PM electrical machines, it is intended as a self-contained reference guide for both graduate students and professional machine designers, and as a useful text for university courses on automated and/or optimized design of electrical machines and drives.

ELECTRIC ENERGY

AN INTRODUCTION, SECOND EDITION

CRC Press Due to the ongoing search for renewable energy, there is renewed interest in electric energy, the societal impact of blackouts and the environmental impact of generating electricity. Emphasizing modelling, analysis and real-world issues, this book provides a broad overview of topics in this field.

ALTERNATIVE ENERGY SYSTEMS

DESIGN AND ANALYSIS WITH INDUCTION GENERATORS, SECOND EDITION

CRC Press **New perspectives on using induction generators in alternative energy technologies** Durable and cost-effective, induction power generators have undergone numerous improvements that make them an increasingly attractive option for renewable energy applications, particularly for wind and hydropower generation systems. From fundamental concepts to the latest technologies, *Alternative Energy Systems: Design and Analysis with Induction Generators, Second Edition* provides detailed and accurate coverage of all aspects related to the design, operation, and overall analysis of such systems. Placing a greater emphasis on providing clear, precise, and succinct explanations, this second edition features new, revised, and updated content as well as figures, tables, equations, and examples. Each chapter introduces a multi-step, chapter-length problem relating the material to a real application. The solution appears at the end of the chapter, along with additional practice problems and references. **New Material in This Edition:** Updated definitions for generated power and efficiency Technological advances, such as new applications using doubly-fed induction generators New methodologies, such as the magnetization curve representation for induction generators Additional focus on renewable energy applications such as sea, wind, and hydropower systems Totally re-written and updated chapter covering doubly-fed induction generators *Alternative Energy Systems* provides the tools and expertise for advanced students and professionals in electrical, mechanical, civil, and environmental engineering involved in the development of power plants. ";

THE BRITISH NATIONAL BIBLIOGRAPHY

BOOK REVIEW INDEX

Every 3rd issue is a quarterly cumulation.

PROCEEDINGS, 2018 XIII INTERNATIONAL CONFERENCE ON ELECTRICAL MACHINES (ICEM)

RAMADA PLAZA THRAKI, ALEXANDROUPOLIS, GREECE, 03 - 06 SEPTEMBER, 2018

UNINTERRUPTIBLE POWER SUPPLIES AND ACTIVE FILTERS

CRC Press **As industry power demands become increasingly sensitive, power quality distortion becomes a critical issue. The recent increase in nonlinear loads drawing non-sinusoidal currents has seen the introduction of various tools to manage the clean delivery of power. Power demands of medical**

facilities, data storage and information systems, emergency equipment, etc. require uninterrupted, high quality power. Uninterruptible power supplies (UPS) and active filters provide this delivery. The first to treat these power management tools together in a comprehensive discussion, *Uninterruptible Power Supplies and Active Filters* compares the similarities of UPS, active filters, and unified power quality conditioners. The book features a description of low-cost and reduced-parts configurations presented for the first time in any publication, along with a presentation of advanced digital controllers. These configurations are vital as industries seek to reduce the cost of power management in their operations. As this field of power management technology continues to grow, industry and academia will come to rely upon the comprehensive treatment found within this book. Industrial engineers in power quality, circuits and devices, and aerospace engineers as well as graduate students will find this a complete and insightful resource for studying and applying the tools of this rapidly developing field.

IAS '98

**CONFERENCE RECORD OF THE 1998 IEEE INDUSTRY APPLICATIONS
CONFERENCE : THIRTY-THIRD IAS ANNUAL MEETING : 12-15
OCTOBER, 1998, ST. LOUIS, MISSOURI, USA**

ANALYSIS OF ELECTRICAL MACHINES

BoD - Books on Demand This book is devoted to students, PhD students, postgraduates of electrical engineering, researchers, and scientists dealing with the analysis, design, and optimization of electrical machine properties. The purpose is to present methods used for the analysis of transients and steady-state conditions. In three chapters the following methods are presented: (1) a method in which the parameters (resistances and inductances) are calculated on the basis of geometrical dimensions and material properties made in the design process, (2) a method of general theory of electrical machines, in which the transients are investigated in two perpendicular axes, and (3) FEM, which is a mathematical method applied to electrical machines to investigate many of their properties.

MODELING AND ANALYSIS WITH INDUCTION GENERATORS

CRC Press Now in its Third Edition, *Alternative Energy Systems: Design and Analysis with Induction Generators* has been renamed *Modeling and Analysis with Induction Generators* to convey the book's primary objective-to present the fundamentals of and latest advances in the modeling and analysis of induction generators. New to the Third Edition Revised equations

HANDBOOK OF MACHINE TOOL ANALYSIS

CRC Press Written by seasoned experts in the field, this reference explores efficient methods of design, structural analysis, and algorithm formulation to: reduce waste, noise, and breakage in system function; identify faults in system construction; and achieve optimal machine tool performance. The authors investigate issues such as force, noise, vibration,

MATLAB GUIDE TO FINITE ELEMENTS

AN INTERACTIVE APPROACH

Springer Science & Business Media This book explores numerical implementation of Finite Element Analysis using MATLAB. Stressing interactive use of MATLAB, it provides examples and exercises from mechanical, civil and aerospace engineering as well as materials science. The text includes a short MATLAB tutorial. An extensive solutions manual offers detailed solutions to all problems in the book for classroom use. The second edition includes a new brick (solid) element with eight nodes and a one-dimensional fluid flow element. Also added is a review of applications of finite elements in fluid flow, heat transfer, structural dynamics and electro-magnetics. The accompanying CD-ROM presents more than fifty MATLAB functions.

FINITE ELEMENT ANALYSIS OF ELECTRICAL MACHINES

Springer Science & Business Media In **Finite Element Analysis of Electrical Machines** the author covers two-dimensional analysis, emphasizing the use of finite elements to perform the most common calculations required of machine designers and analysts. The book explains what is inside a finite element program, and how the finite element method can be used to determine the behavior of electrical machines. The material is tutorial and includes several completely worked out examples. The main illustrative examples are synchronous and induction machines. The methods described have been used successfully in the design and analysis of most types of rotating and linear machines. Audience: A valuable reference source for academic researchers, practitioners and designers of electrical machinery.

MULTIPHYSICS SIMULATION BY DESIGN FOR ELECTRICAL MACHINES, POWER ELECTRONICS AND DRIVES

John Wiley & Sons Presents applied theory and advanced simulation techniques for electric machines and drives This book combines the knowledge of experts from both academia and the software industry to present theories of multiphysics simulation by design for electrical machines, power electronics, and drives. The comprehensive design approach described within supports new applications required by technologies sustaining high drive efficiency. The highlighted framework

considers the electric machine at the heart of the entire electric drive. The book also emphasizes the simulation by design concept—a concept that frames the entire highlighted design methodology, which is described and illustrated by various advanced simulation technologies. **Multiphysics Simulation by Design for Electrical Machines, Power Electronics and Drives** begins with the basics of electrical machine design and manufacturing tolerances. It also discusses fundamental aspects of the state of the art design process and includes examples from industrial practice. It explains FEM-based analysis techniques for electrical machine design—providing details on how it can be employed in ANSYS Maxwell software. In addition, the book covers advanced magnetic material modeling capabilities employed in numerical computation; thermal analysis; automated optimization for electric machines; and power electronics and drive systems. This valuable resource: Delivers the multi-physics know-how based on practical electric machine design methodologies Provides an extensive overview of electric machine design optimization and its integration with power electronics and drives Incorporates case studies from industrial practice and research and development projects **Multiphysics Simulation by Design for Electrical Machines, Power Electronics and Drives** is an incredibly helpful book for design engineers, application and system engineers, and technical professionals. It will also benefit graduate engineering students with a strong interest in electric machines and drives.

PROCEEDINGS

THE INVENTIONS, RESEARCHES AND WRITINGS OF NIKOLA TESLA

WITH SPECIAL REFERENCE TO HIS WORK IN POLYPHASE CURRENTS AND HIGH POTENTIAL LIGHTING

More than just descriptions and details, Thomas Martin attempts to explain in layman's terms the science behind Tesla's work. He has also included a short biography.?

SPOTLIGHT ON MODERN TRANSFORMER DESIGN

Springer Science & Business Media **Spotlight on Modern Transformer Design** introduces a novel approach to transformer design using artificial intelligence (AI) techniques in combination with finite element method (FEM). Today, AI is widely used for modeling nonlinear and large-scale systems, especially when explicit mathematical models are difficult to obtain or completely lacking. Moreover, AI is computationally efficient in solving hard optimization problems. Many numerical examples throughout the book illustrate the application of the techniques discussed to a variety of real-life transformer design problems, including: • problems relating to the prediction of no-load losses; • winding material selection; • transformer design optimisation; • and transformer selection. **Spotlight on**

Modern Transformer Design is a valuable learning tool for advanced undergraduate and graduate students, as well as researchers and power engineering professionals working in electric utilities and industries, public authorities, and design offices.

ELECTRIC MACHINES

TWO VOLUME SET

CRC Press With its comprehensive coverage of the state of the art, this second edition of the book introduces the basic types of transformers and electric machines and also discusses advanced subjects in electric machines, starting from principles, to applications and case studies with ample graphical results. The first volume, **Electric Machines: Steady State Performance with MATLAB(R)** covers circuit modeling characteristics and performance characteristics under steady state, testing techniques and preliminary electromagnetic-thermic dimensioning. This book is intended for first semester course, treating electric transformers, rotary and linear machines steady state modeling and performance computation, preliminary dimensioning and testing standardized and innovative techniques. The second volume, **Electric Machines: Transients, Control Principles, Finite Element Analysis and Optimal Design with MATLAB(R)** is intended for second (and third) semester course, treating topics such as modeling of transients, control principles, electromagnetic and thermal finite element Analysis and optimal design (dimensioning). Notable recent knowledge with strong industrialization potential has been added to this edition, such as, orthogonal models of multiphase A.C. machines, thermal finite element analysis of (FEA) electric machines, and FEA- based-only optimal design of a PM motor case study. Both the volumes include numerical examples and case studies, and numerous computer simulation programs in MATLAB and Simulink(R) are also available online that illustrate performance characteristics present in the chapters.

SAFETY AND RELIABILITY - SAFE SOCIETIES IN A CHANGING WORLD

PROCEEDINGS OF ESREL 2018, JUNE 17-21, 2018, TRONDHEIM, NORWAY

CRC Press **Safety and Reliability - Safe Societies in a Changing World** collects the papers presented at the 28th European Safety and Reliability Conference, ESREL 2018 in Trondheim, Norway, June 17-21, 2018. The contributions cover a wide range of methodologies and application areas for safety and reliability that contribute to safe societies in a changing world. These methodologies and applications include: - foundations of risk and reliability assessment and management - mathematical methods in reliability and safety - risk assessment - risk management - system reliability - uncertainty analysis - digitalization and big data - prognostics and system health management - occupational safety - accident and

incident modeling - maintenance modeling and applications - simulation for safety and reliability analysis - dynamic risk and barrier management - organizational factors and safety culture - human factors and human reliability - resilience engineering - structural reliability - natural hazards - security - economic analysis in risk management Safety and Reliability - Safe Societies in a Changing World will be invaluable to academics and professionals working in a wide range of industrial and governmental sectors: offshore oil and gas, nuclear engineering, aeronautics and aerospace, marine transport and engineering, railways, road transport, automotive engineering, civil engineering, critical infrastructures, electrical and electronic engineering, energy production and distribution, environmental engineering, information technology and telecommunications, insurance and finance, manufacturing, marine transport, mechanical engineering, security and protection, and policy making.

POWER SYSTEM ANALYSIS AND DESIGN

Cengage Learning The new edition of **POWER SYSTEM ANALYSIS AND DESIGN** provides students with an introduction to the basic concepts of power systems along with tools to aid them in applying these skills to real world situations. Physical concepts are highlighted while also giving necessary attention to mathematical techniques. Both theory and modeling are developed from simple beginnings so that they can be readily extended to new and complex situations. The authors incorporate new tools and material to aid students with design issues and reflect recent trends in the field. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

INTRODUCTION TO FINITE ELEMENT ANALYSIS USING MATLAB® AND ABAQUS

CRC Press There are some books that target the theory of the finite element, while others focus on the programming side of things. **Introduction to Finite Element Analysis Using MATLAB® and Abaqus** accomplishes both. This book teaches the first principles of the finite element method. It presents the theory of the finite element method while maintaining a balance between its mathematical formulation, programming implementation, and application using commercial software. The computer implementation is carried out using MATLAB, while the practical applications are carried out in both MATLAB and Abaqus. MATLAB is a high-level language specially designed for dealing with matrices, making it particularly suited for programming the finite element method, while Abaqus is a suite of commercial finite element software. Includes more than 100 tables, photographs, and figures Provides MATLAB codes to generate contour plots for sample results **Introduction to Finite Element Analysis Using MATLAB and Abaqus** introduces and explains theory in each

chapter, and provides corresponding examples. It offers introductory notes and provides matrix structural analysis for trusses, beams, and frames. The book examines the theories of stress and strain and the relationships between them. The author then covers weighted residual methods and finite element approximation and numerical integration. He presents the finite element formulation for plane stress/strain problems, introduces axisymmetric problems, and highlights the theory of plates. The text supplies step-by-step procedures for solving problems with Abaqus interactive and keyword editions. The described procedures are implemented as MATLAB codes and Abaqus files can be found on the CRC Press website.

ELECTRIC MACHINES

ANALYSIS AND DESIGN APPLYING MATLAB

McGraw-Hill Science, Engineering & Mathematics This text contains sufficient material for a single semester core course in electric machines and energy conversion, while allowing some selectivity among the topics covered by the latter sections of Chapters 3-7 depending on a school's curriculum. The text can work for either a course in energy design principles and analysis with an optional design project, or for a capstone design course that follows an introductory course in energy device principles. A unique feature of "Electric Machines: Analysis and Design Applying MATLAB" is its integration of the popular interactive computer software MATLAB to handle the tedious calculations arising in electric machine analysis. As a result, more exact models of devices can be retained for analysis rather than the approximate models commonly introduced for the sake of computational simplicity.

ELECTRIC MACHINERY FUNDAMENTALS

Electric Machinery Fundamentals continues to be a best-selling machinery text due to its accessible, student-friendly coverage of the important topics in the field. Chapman's clear writing persists in being one of the top features of the book. Although not a book on MATLAB, the use of MATLAB has been enhanced in the fourth edition. Additionally, many new problems have been added and remaining ones modified. Electric Machinery Fundamentals is also accompanied by a website that provides solutions for instructors, as well as source code, MATLAB tools, and links to important sites for students.

ON LIGHT AND OTHER HIGH FREQUENCY PHENOMENA

Good Press On Light and Other High Frequency Phenomena is a lecture by Nikola Tesla. He presents his attempts to develop a wireless lighting system based on near-field inductive and capacitive coupling.

ELECTRICITY AND ELECTRONICS FOR RENEWABLE ENERGY TECHNOLOGY

AN INTRODUCTION

CRC Press **Electricity and Electronics for Renewable Energy Technology: An Introduction** provides a foundational understanding of electricity and the methods and devices specific to electricity from renewable sources. The book begins with a brief explanation of the necessary mathematics and then: Addresses the basics of electricity and relationships, motors and generators, transformers, and networks and distribution Tackles the key concepts associated with electronics, diodes and transistors, switching devices, and power converters Covers digital electronics from number systems and logic circuits to encoders and decoders Explores advanced subjects such as reactive power and the operation of a transistor A lab manual and PowerPoint presentation are available with qualifying course adoption. Featuring extensive review questions and practice problems at the end of each chapter, **Electricity and Electronics for Renewable Energy Technology: An Introduction** instills an essential knowledge of electricity and electronics required for work with renewable energy.

ADVANCED TECHNOLOGIES, SYSTEMS, AND APPLICATIONS II

PROCEEDINGS OF THE INTERNATIONAL SYMPOSIUM ON INNOVATIVE AND INTERDISCIPLINARY APPLICATIONS OF ADVANCED TECHNOLOGIES (IAT)

Springer This book presents innovative and interdisciplinary applications of advanced technologies. It includes the scientific outcomes of the 9th DAYS OF BHAAAS (Bosnian-Herzegovinian American Academy of Arts and Sciences) held in Banja Vrućica, Teslić, Bosnia and Herzegovina on May 25-28, 2017. This unique book offers a comprehensive, multidisciplinary and interdisciplinary overview of the latest developments in a broad section of technologies and methodologies, viewed through the prism of applications in computing, networking, information technology, robotics, complex systems, communications, energy, mechanical engineering, economics and medicine, to name just a few.

HANDBOOK OF ELECTRIC MOTORS

CRC Press This handbook provides comprehensive coverage of every type of electric motor in use today, from the generic forms of direct current induction, and synchronous machines, to permanent magnet DC motors, linear induction motors and stepper motors. Related topics such as finite element analysis, control, protection, testing, reliability, maintenance, specification procedures, and environmental and mechanical factors are discussed.

NUMERICAL MODELLING AND DESIGN OF ELECTRICAL MACHINES AND DEVICES

WIT Press This text provides an overview of numerical field computational methods and, in particular, of the finite element method (FEM) in magnetics. Detailed attention is paid to the practical use of the FEM in designing electromagnetic devices such as motors, transformers and actuators. Based on the authors' extensive experience of teaching numerical techniques to students and design engineers, the book is ideal for use as a text at undergraduate and graduate level, or as a primer for practising engineers who wish to learn the fundamentals and immediately apply these to actual design problems. Contents: Introduction; Computer Aided Design in Magnetics; Electromagnetic Fields; Potentials and Formulations; Field Computation and Numerical Techniques; Coupled Field Problems; Numerical Optimisation; Linear System Equation Solvers; Modelling of Electrostatic and Magnetic Devices; Examples of Computed Models.

PROCEEDINGS OF THE ASME TURBO EXPO ...

SYNCHRONOUS RELUCTANCE MACHINES

ANALYSIS, OPTIMIZATION AND APPLICATIONS

IET The comprehensive reference on synchronous reluctance machines, which offer high power density at low cost and support the electrification in the transport sector. This book, written by top academic and industry experts, covers all topics required to design these machines.

ELECTRIC ENERGY

AN INTRODUCTION, THIRD EDITION

CRC Press The search for renewable energy and smart grids, the societal impact of blackouts, and the environmental impact of generating electricity, along with the new ABET criteria, continue to drive a renewed interest in electric energy as a core subject. Keeping pace with these changes, *Electric Energy: An Introduction, Third Edition* restructures the traditional introductory electric energy course to better meet the needs of electrical and mechanical engineering students. Now in color, this third edition of a bestselling textbook gives students a wider view of electric energy, without sacrificing depth. Coverage includes energy resources, renewable energy, power plants and their environmental impacts, electric safety, power quality, power market, blackouts, and future power systems. The book also makes the traditional topics of electromechanical conversion, transformers, power electronics, and three-phase systems more relevant to students. Throughout, it emphasizes issues that engineers encounter in their daily work, with numerous examples drawn

from real systems and real data. What's New in This Edition Color illustrations Substation and distribution equipment Updated data on energy resources Expanded coverage of power plants Expanded material on renewable energy Expanded material on electric safety Three-phase system and pulse width modulation for DC/AC converters Induction generator More information on smart grids Additional problems and solutions Combining the fundamentals of traditional energy conversion with contemporary topics in electric energy, this accessible textbook gives students the broad background they need to meet future challenges.

IEEE MEMBERSHIP DIRECTORY

THE INDUCTION MACHINE HANDBOOK

CRC Press Often called the workhorse of industry, the advent of power electronics and advances in digital control are transforming the induction motor into the racehorse of industrial motion control. Now, the classic texts on induction machines are nearly three decades old, while more recent books on electric motors lack the necessary depth and detail on ind

DENTAL IMPLANTOLOGY AND BIOMATERIAL

BoD - Books on Demand The discipline of dental implantology is one of the scientific medical/dental fields that are moving dynamically very fast. Not to mention the multiple specialties involved in managing the service as well as the research production. As much as it is necessary to have books to review the basics of bone healing, cellular biology, and implant rehabilitation planning, it is very critical to have more focused books to link the dots and elevate the benchmark of success even higher, especially when facing the reality of more advanced case challenges nowadays. "Dental Implantology and Biomaterial" presents four main sections covering topics of clinically applied "tips and tricks", the reality of transmucosal implant surface, the future of ceramic implants, the revolution of implant surface treatment, and finally the application of nonautogenous graft in the treatment process. The aim is updating the practitioners, researchers, and postgraduate trainees in the field with up-to-date clinically applied topics focused on reducing the gap between research and clinical application. Doing so will not only optimize the practice but also advance it with evidence-based maneuvers and technical details.

ADVANCES ON MECHANICS, DESIGN ENGINEERING AND MANUFACTURING III

PROCEEDINGS OF THE INTERNATIONAL JOINT CONFERENCE ON MECHANICS, DESIGN ENGINEERING & ADVANCED MANUFACTURING,

JCM 2020, JUNE 2-4, 2020

Springer Nature This open access book gathers contributions presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2020), held as a web conference on June 2-4, 2020. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is organized into four main parts, reflecting the focus and primary themes of the conference. The contributions presented here not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed and future interdisciplinary collaborations.

ELECTRIC VEHICLE MACHINES AND DRIVES

DESIGN, ANALYSIS AND APPLICATION

John Wiley & Sons A timely comprehensive reference consolidates the research and development of electric vehicle machines and drives for electric and hybrid propulsions • Focuses on electric vehicle machines and drives • Covers the major technologies in the area including fundamental concepts and applications • Emphasis the design criteria, performance analyses and application examples or potentials of various motor drives and machine systems • Accompanying website includes the simulation models and outcomes as supplementary material

LINEAR MOTION ELECTROMAGNETIC DEVICES

Taylor & Francis Linear electric motors (LEMS) produce directly linear, progressive or oscillatory linear motion through electromagnetic forces. LEMS enjoy small, but very dynamic, worldwide markets in various applications, such as urban and airport people movers, loudspeakers, relays, door-lock openers, magnetic bearings, vibrators, refrigerator compressors, and small vacuum or liquid pumps. This book discusses linear induction motors, linear permanent magnetic synchronous motors, linear permanent magnet pulse motors, linear (plunger) solenoids with fast response, and linear oscillomotors. A disk containing Mathcad codes for the examples is included