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KEY=SOFTWARE - ENGLISH INGRID

Multiaxial Fatigue

SAE International

Learning Femap

Proceedings of the 13th International Scientific

Conference

Computer Aided Engineering

Springer These proceedings of the 13th International Conference on Computer Aided Engineering present selected papers from the event, which was held in Polanica Zdrój, Poland, from June 22 to 25, 2016. The contributions are organized according to thematic sections on the design and manufacture of machines and technical systems; durability prediction; repairs and retrofitting of power equipment; strength and thermodynamic analyses for power equipment; design and calculation of various types of load-carrying structures; numerical methods for dimensioning materials handling; and long-distance transport equipment. The conference and its proceedings offer a major interdisciplinary forum for researchers and engineers to present the most innovative studies and advances in this dynamic field.

Proceedings of the 5th International Conference on Industrial Engineering (ICIE 2019)

Volume II

Springer Nature This book highlights recent findings in industrial, manufacturing and mechanical engineering, and provides an overview of the state of the art in these fields, mainly in Russia and Eastern Europe. A broad range of topics and issues in modern engineering are discussed, including the dynamics of machines and working processes, friction, wear and lubrication in machines, surface transport and technological machines, manufacturing engineering of industrial facilities, materials engineering, metallurgy, control systems and their industrial applications, industrial mechatronics, automation and robotics. The book gathers selected papers presented at the 5th International Conference on Industrial Engineering (ICIE), held in Sochi, Russia in March 2019. The authors are experts in various fields of engineering, and all papers have been carefully reviewed. Given its scope, the book will be of interest to a wide readership, including mechanical and production engineers, lecturers in engineering disciplines, and engineering graduates.

Integration of CAD/CAPP/CAM

Walter de Gruyter GmbH & Co KG The book introduces the fundamentals and development of Computer aided design, Computer aided process planning, and Computer aided manufacturing. The integration of CAD/CAPP/CAM, product data management and Concurrent engineering and collaborative design etc. are also illustrated in detail, which make this book be an essential reference for graduate students, scientists and practitioner in the research fields of computer sciences and engineering.

Optimization in Practice with MATLAB

Cambridge University Press This textbook is designed for students and industry practitioners for a first course in optimization integrating MATLAB® software.

Non-destructive Testing and Repair of Pipelines

Springer This book describes efficient and safe repair operations for pipelines, and develops new methods for the detection and repair of volumetric surface defects in transmission pipelines. It also addresses the physics, mechanics, and applications of advanced materials used for composite repair of corroded pipelines. Presenting results obtained in the European Commission's INNOPIPES FRAMEWORK 7 programme, it develops long-range ultrasonic and phased array technologies for pipeline diagnostics, and explores their interactions with discontinuities and directional properties of ultrasonic antenna array. The book subsequently shares the results of non-destructive testing for different types of materials applications and advanced composite repair systems, and characterizes the mechanical properties by means of fracture methods and non-destructive techniques. In turn, the book assesses the currently available technologies for reinforcement of pipelines, drawing on the experience gained by project partners, and evaluates the recovery of the carrying capacity of pipeline sections with local corrosion damage by means of analytical and numerical procedures. It develops an optimization method based on the planning of experiments and surface techniques for advanced composite repair systems, before validating the numerical models developed and experimentally gauging the effectiveness of composite repair with the help of full-scale hydraulic tests.

Twin-Control

A Digital Twin Approach to Improve Machine Tools Lifecycle

Springer This open access book summarizes the results of the European research project “Twin-model based virtual manufacturing for machine tool-process simulation and control” (Twin-Control). The first part reviews the applications of ICTs in machine tools and manufacturing, from a scientific and industrial point of view, and introduces the Twin-Control approach, while Part 2 discusses the development of a digital twin of machine tools. The third part addresses the monitoring and data management infrastructure of machines and manufacturing processes and numerous applications of energy monitoring. Part 4 then highlights various features developed in the project by combining the developments covered in Parts 3 and 4 to control the manufacturing processes applying the so-called CPSs. Lastly, Part 5 presents a complete validation of Twin-Control features in two key industrial sectors: aerospace and automotive. The book offers a representative overview of the latest trends in the manufacturing industry, with a focus on machine tools.

Mastering CAD/CAM

McGraw-Hill Science, Engineering & Mathematics Provides a modern, comprehensive overview of computer-aided design and manufacturing. This text is designed to be student-oriented, and covers important developments, such as solid modeling and parametric modeling. The topic coverage is supported throughout with numerous applied examples, cases and problems.

Structural Health Monitoring of Civil Infrastructure

Systems

Elsevier Structural health monitoring is an extremely important methodology in evaluating the 'health' of a structure by assessing the level of deterioration and remaining service life of civil infrastructure systems. This book reviews key developments in research, technologies and applications in this area of civil engineering. It discusses ways of obtaining and analysing data, sensor technologies and methods of sensing changes in structural performance characteristics. It also discusses data transmission and the application of both individual technologies and entire systems to bridges and buildings. With its distinguished editors and international team of contributors, Structural health monitoring of civil infrastructure systems is a valuable reference for students in civil and structural engineering programs as well as those studying sensors, data analysis and transmission at universities. It will also be an important source for practicing civil engineers and designers, engineers and researchers developing sensors, network systems and methods of data transmission and analysis, policy makers, inspectors and those responsible for the safety and service life of civil infrastructure. Reviews key developments in research, technologies and applications Discusses systems used to obtain and analyse data and sensor technologies Assesses methods of sensing changes in structural performance

NX 11 for Beginners

Createspace Independent Publishing Platform NX 11 For Beginners introduces you to the basics of NX 11 by using step-by-step instructions. You begin with brief introduction to NX 11 and the User Interface, ribbon, environments, commands, and various options. Within a short time, you will learn to create 2D sketches that form the basis for 3D models. You will learn to sketch on three different planes (Front, Top and Right planes). You will use various sketching tools such as line, rectangle, circle, and so on. You will also learn to modify sketches using tools such as trim, extend, fillets, and so on. Learn to use geometric constraints and dimensions to achieve a definite shape and size of the sketch. Sketches are converted into 3D features such as Extrude, Revolve, and so on. You combine or subtract features to achieve the final part. You can also add placed features (sketch less features) such as Fillets, and Holes to the 3D geometry. You explore mirroring and patterning commands to create repetitive features. You will learn to use some additional modeling tools and work with multi-body parts. Learn to modify part geometry by editing sketches and feature parameters. You explore Synchronous Modeling tools to modify the Part geometry by modifying its faces. You build assemblies after creating parts. There are two methods to build assemblies: Bottom-up and Top-down. In the Bottom-up method, you bring all the parts together and add constraints between them. In the Top-down method, you create parts in the assembly level. You explode assemblies to show the

manner in which they were assembled. You create Drawings of the parts and assemblies. You insert part views and add dimensions and annotations to complete the drawing. In case of assembly drawings, you insert assembly views, add Bill of Materials, Balloons, and Revision table. The Sheet Metal design chapter covers various tools used to build sheet metal parts from scratch. You will also learn to convert an existing part geometry into sheet metal part. You also create flat patterns and 2D sheet metal drawings. Finally, you explore the surface modeling tools used to create complex shapes. Table of Contents 1. Getting Started with NX 11 2. Sketch Techniques 3. Extrude and Revolve Features 4. Placed Features 5. Patterned Geometry 6. Additional Features and Multibody Parts 7. Modifying Parts 8. Assemblies 9. Drawings 10. Sheet Metal Design 11. Surface Design If you are an educator, you can request a free evaluation copy by sending us an email to online.books999@gmail.com

AutoCAD Electrical 2016 Black Book

CreateSpace The AutoCAD Electrical 2016 Black Book, the second edition of AutoCAD Electrical Black books, has lots of new features and examples as compared to previous edition. Following the same strategy as for the previous edition, the book is written to help professionals as well as learners in performing various tedious jobs in Electrical control designing. The book follows a step by step methodology. The book covers use of right tool at right places. The book covers almost all the information required by a learner to master the AutoCAD Electrical. The book starts with basics of Electrical Designing, goes through all the Electrical controls related tools and ends up with practical examples of electrical schematic and panel designing. Chapter on Reports makes you comfortable in creating and editing electrical component reports. This edition also discusses the interoperability between Autodesk Inventor and AutoCAD Electrical which is need of industry these days. Some of the salient features of this book are : In-Depth explanation of concepts Every new topic of this book starts with the explanation of the basic concepts. In this way, the user becomes capable of relating the things with real world. Topics Covered Every chapter starts with a list of topics being covered in that chapter. In this way, the user can easy find the topic of his/her interest easily. Instruction through illustration The instructions to perform any action are provided by maximum number of illustrations so that the user can perform the actions discussed in the book easily and effectively. There are about 1000 illustrations that make the learning process effective. Tutorial point of view The book explains the concepts through the tutorial to make the understanding of users firm and long lasting. Each chapter of the book has tutorials that are real world projects. Project Free projects and exercises are provided to students for practicing. For Faculty If you are a faculty member, then you can ask for video tutorials on any of the topic, exercise, tutorial, or concept.

Tcl and the Tk Toolkit

Pearson Education John K. Ousterhout's Definitive Introduction to Tcl/Tk-Now Fully Updated for Tcl/Tk 8.5 Tcl and the Tk Toolkit, Second Edition, is the fastest way for newcomers to master Tcl/Tk and is the most authoritative resource for experienced programmers seeking to gain from Tcl/Tk 8.5's powerful enhancements. Written by Tcl/Tk creator John K. Ousterhout and top Tcl/Tk trainer Ken Jones, this updated volume provides the same extraordinary clarity and careful organization that made the first edition the world's number one Tcl/Tk tutorial. Part I introduces Tcl/Tk through simple scripts that demonstrate its value and offer a flavor of the Tcl/Tk scripting experience. The authors then present detailed, practical guidance on every feature necessary to build effective, efficient production applications-including variables, expressions, strings, lists, dictionaries, control flow, procedures, namespaces, file and directory management, interprocess communication, error and exception handling, creating and using libraries, and more. Part II turns to the Tk extension and Tk 8.5's new themed widgets, showing how to organize sophisticated user interface elements into modern GUI applications for Tcl. Part III presents incomparable coverage of Tcl's C functions, which are used to create new commands and packages and to integrate Tcl with existing C software-thereby leveraging Tcl's simplicity while accessing C libraries or executing performance-intensive tasks. Throughout, the authors illuminate all of Tcl/Tk 8.5's newest, most powerful improvements. You'll learn how to use new Starkits and Starpacks to distribute run-time environments and applications through a single file; how to take full advantage of the new virtual file system support to treat entities such as zip archives and HTTP sites as mountable file systems; and more. From basic syntax to simple Tcl commands, user interface development to C integration, this fully updated classic covers it all. Whether you're using Tcl/Tk to automate system/network administration, streamline testing, control hardware, or even build desktop or Web applications, this is the one Tcl/Tk book you'll always turn to for answers.

Building Parsers with Java

Addison-Wesley Professional CD-ROM contains: Examples from text -- Parser toolkit -- Example programs.

Tcl/Tk Pocket Reference

"O'Reilly Media, Inc." A handy reference guide includes easy-to-understand summaries of the basic Tcl language elements, to the Tcl and Tk commands, and to the Tk widgets, in a quick access format. Original. (Advanced).

Evolutionary Design by Computers

Morgan Kaufmann "Evolutionary Design By Computers offers an enticing preview of the future of computer-aided design: Design by Darwin." Lawrence J. Fogel, President, Natural Selection, Inc. "Evolutionary design by computers is the major revolution in design thinking of the 20th century and this book is the best introduction available." Professor John Frazer, Swire Chair and Head of School of Design, the Hong Kong Polytechnic University, Author of "An Evolutionary Architecture" "Peter Bentley has assembled and edited an important collection of papers that demonstrate, convincingly, the utility of evolutionary computation for engineering solutions to complex problems in design." David B. Fogel, Editor-in-Chief, IEEE Transactions on Evolutionary Computation Some of the most startling achievements in the use of computers to automate design are being accomplished by the use of evolutionary search algorithms to evolve designs. Evolutionary Design By Computers provides a showcase of the best and most original work of the leading international experts in Evolutionary Computation, Engineering Design, Computer Art, and Artificial Life. By bringing together the highest achievers in these fields for the first time, including a foreword by Richard Dawkins, this book provides the definitive coverage of significant developments in Evolutionary Design. This book explores related sub-areas of Evolutionary Design, including: design optimization creative design the creation of art artificial life. It shows for the first time how techniques in each area overlap, and promotes the cross-fertilization of ideas and methods.

Tcl/Tk in a Nutshell

A Desktop Quick Reference

"O'Reilly Media, Inc." The Tcl language and Tk graphical toolkit are simple and powerful building blocks for custom applications. The Tcl/Tk combination is increasingly popular because it lets you produce sophisticated graphical interfaces with a few easy commands, develop and change scripts quickly, and conveniently tie together existing utilities or programming libraries. One of the attractive features of Tcl/Tk is the wide variety of commands, many offering a wealth of options. Most of the things you'd like to do have been anticipated by the language's creator, John Ousterhout, or one of the developers of Tcl/Tk's many powerful extensions. Thus, you'll find that a command or option probably exists to provide just what you need. And that's why it's valuable to have a quick reference that briefly describes every command and option in the core Tcl/Tk distribution as well as the most popular extensions. Keep this book

on your desk as you write scripts, and you'll be able to find almost instantly the particular option you need. Most chapters consist of alphabetical listings. Since Tk and mega-widget packages break down commands by widget, the chapters on these topics are organized by widget along with a section of core commands where appropriate. Contents include: Core Tcl and Tk commands and Tk widgets C interface (prototypes) Expect [incr Tcl] and [incr Tk] Tix TclX BLT Oratcl, SybTcl, and Tclodbc

Automotive Mechatronics

Automotive Networking, Driving Stability Systems, Electronics

Springer As the complexity of automotive vehicles increases this book presents operational and practical issues of automotive mechatronics. It is a comprehensive introduction to controlled automotive systems and provides detailed information of sensors for travel, angle, engine speed, vehicle speed, acceleration, pressure, temperature, flow, gas concentration etc. The measurement principles of the different sensor groups are explained and examples to show the measurement principles applied in different types.

Architecturally Exposed Structural Steel Specifications, Connections, Details

Birkhäuser This book provides the means for a better control and purposeful consideration of the design of Architecturally Exposed Structural Steel (AESS). It deploys a detailed categorization of AESS and its uses according to design context, building typology and visual exposure. In a rare combination, this approach makes high quality benchmarks compatible with economies in terms of material use, fabrication methods, workforce and cost. Building with exposed steel has become more and more popular worldwide, also as advances in fire safety technology have permitted its use for building tasks under stringent fire regulations. On her background of long standing as a teacher in architectural steel design affiliated with many institutions, the author ranks among the world's best scholars on this topic. Among the fields covered by the extensive approach of this book are the characteristics of the various categories of

AESS, the interrelatedness of design, fabrication and erection of the steel structures, issues of coating and protection (including corrosion and fire protection), special materials like weathering steel and stainless steel, the member choices and a connection design checklist. The description draws on many international examples from advanced contemporary architecture, all visited and photographed by the author, among which figure buildings like the Amgen Helix Bridge in Seattle, the Shard Observation Level in London, the New York Times Building and the Arganquela Footbridge.

Applied Fluid Dynamics Handbook

Krieger Publishing Company This handbook provides a summary of theoretical, experimental, and statistical data on fluid flows. The text makes extensive use of tables and graphics so that engineers students, and researchers can rapidly locate accurate and up-to-date data. The emphasis is on applied fluid dynamics, in particular practical problems such as fluid dynamic drag, pipe and duct flow, and nozzles and diffusers, which have direct practical applications.

MSC/NASTRAN

Common Questions and Answers

Optimization of Structural Topology, Shape, and Material

Springer Science & Business Media In the past, the possibilities of structural optimization were restricted to an optimal choice of profiles and shape. Further improvement can be obtained by selecting appropriate advanced materials and by optimizing the topology, i.e. finding the best position and arrangement of structural elements within a construction. The optimization of structural topology permits the use of optimization algorithms at a very early stage of the design process. The method presented in this book has been developed by Martin Bendsoe in cooperation with other researchers and can be considered as one of the most effective approaches to the optimization of layout and material design.

Adobe GoLive 5.0

Adobe Press Showcases the Web design and publishing tool's updated features, covering toolbars, palettes, site management tools, layout design, Cascading Style Sheets, and image maps.

Power System SCADA and Smart Grids

CRC Press Power System SCADA and Smart Grids brings together in one concise volume the fundamentals and possible application functions of power system supervisory control and data acquisition (SCADA). The text begins by providing an overview of SCADA systems, evolution, and use in power systems and the data acquisition process. It then describes the components of SCADA systems, from the legacy remote terminal units (RTUs) to the latest intelligent electronic devices (IEDs), data concentrators, and master stations, as well as: Examines the building and practical implementation of different SCADA systems Offers a comprehensive discussion of the data communication, protocols, and media usage Covers substation automation (SA), which forms the basis for transmission, distribution, and customer automation Addresses distribution automation and distribution management systems (DA/DMS) and energy management systems (EMS) for transmission control centers Discusses smart distribution, smart transmission, and smart grid solutions such as smart homes with home energy management systems (HEMs), plugged hybrid electric vehicles, and more Power System SCADA and Smart Grids is designed to assist electrical engineering students, researchers, and practitioners alike in acquiring a solid understanding of SCADA systems and application functions in generation, transmission, and distribution systems, which are evolving day by day, to help them adapt to new challenges effortlessly. The book reveals the inner secrets of SCADA systems, unveils the potential of the smart grid, and inspires more minds to get involved in the development process.

Concurrent Engineering in the 21st Century Foundations, Developments and Challenges

Springer Presenting the gradual evolution of the concept of Concurrent Engineering (CE), and the technical, social methods and tools that have been developed, including the many theoretical and practical challenges that still exist, this book serves to summarize the achievements and current challenges of CE and will give readers a comprehensive picture of CE as researched and practiced in

different regions of the world. Featuring in-depth analysis of complex real-life applications and experiences, this book demonstrates that Concurrent Engineering is used widely in many industries and that the same basic engineering principles can also be applied to new, emerging fields like sustainable mobility. Designed to serve as a valuable reference to industry experts, managers, students, researchers, and software developers, this book is intended to serve as both an introduction to development and as an analysis of the novel approaches and techniques of CE, as well as being a compact reference for more experienced readers.

NX 12 Tutorial

Sketching, Feature Modeling, Assemblies, Drawings, Sheet Metal, Simulation Basics, PMI, and Rendering

NX 12 Tutorial is written to help new users to learn the basics of NX and some advanced solid modeling techniques. The Author guides readers through NX 12 with clear and step-by-step tutorials that help you to design solid models from day one. The first four chapters of this book cover the user interface, part modeling, assemblies, and drawings. After learning the basics, you can learn additional sketching tools, feature modeling tools, expressions, sheet metal modeling, some advanced assembly techniques, drawing annotations, simulation basics, PMI, and rendering.

Composites Engineering Handbook

CRC Press Offers information on the fundamental principles, processes, methods and procedures related to fibre-reinforced composites. The book presents a comparative view, and provides design properties of polymeric, metal, ceramic and cement matrix composites. It also gives current test methods, joining techniques and design methodologies.

Bentley Descartes V8i (SELECTseries)

Formulas for Dynamics, Acoustics and Vibration

John Wiley & Sons With Over 60 tables, most with graphic illustration, and over 1000 formulas, Formulas for Dynamics, Acoustics, and Vibration will provide an invaluable time-saving source of concise solutions for mechanical, civil, nuclear, petrochemical and aerospace engineers and designers. Marine engineers and service engineers will also find it useful for diagnosing their machines that can slosh, rattle, whistle, vibrate, and crack under dynamic loads.

Basic to Advanced Computer Aided Design Using Nx9 Modeling, Drafting, Assembli

A Project Oriented Learning Manual

Basic to Advanced Computer Aided Design Using Nx9 Modeling, Drafting, Assembli This book has been written with a certain underlying philosophy that comes from years of engineering design which we would like to share with you. Engineers are pretty bright in general, so we've written this book to take advantage of that fact. Our book begins with the basics and examples explained to every last detail. As the book progresses, more and more is left to the reader. We believe this enables faster learning as you won't have to sift through copious and superfluous instructions. We hope you enjoy this material that we've truly poured our hearts into.

Basic to Advanced Computer Aided Design Using Nx12 Modeling, Drafting, Assemblies & Sheetmetal

Basic to Advanced NX12 Modeling, Drafting and Assemblies is the newly revised version of our previous CAD training textbooks. We have greatly expanded the content, detail, and exercises included in this edition. Topics include: Synchronous and Master Modeling; Fundamental and Intermediate Curves; Editing Entities; Design, Reference, Surface and Detail Features; Sheet Metal Features; True Studio Task; and Injection-Molded Parts and Castings. Using NX12 is like playing a piano. In the same way that chords are as important

as individual notes, NX commands are far more powerful when used in concert with others. Our book makes an effort to show not only the details of the most important commands, but the powerful combinations that we have used to bring about excellent designs. This manual teaches you the modeling, assemblies, and drafting functionality including all the latest and greatest tools found only in NX12.

I-DEAS Master Series

Mechanical CAE/CAD/CAM Software : Student Guide

Progress in Industrial Mathematics at ECMI 2008

Springer Science & Business Media The 15th European Conference on Mathematics for Industry was held in the agreeable surroundings of University College London, just 5 minutes walk from the British Museum in the heart of London, over the 7ve warm, sunny days from 30 June to 4 July 2008. Participants from all over the world met with the common aim of reinforcing the role of mathematics as an overarching resource for industry and business. The conference attracted over 300 participants from 30 countries, most of them participating with either a contributed talk, a minisymposium presentation or a plenary lecture. 'Mathematics in Industry' was interpreted in its widest sense as can be seen from the range of applications and techniques described in this volume. We mention just two examples. The Alan Tayler Lecture was given by Mario Primicerio on a problem arising from moving oil through pipelines when temperature variations affect the shearing properties of wax and thus modify the flow. The Wacker Prize winner, Master's student Lauri Harhanen from the Helsinki University of Technology, showed how a novel piece of mathematics allowed new software to capture real-time images of teeth from the data supplied by present day dental machinery (see ECMI Newsletter 44). The meeting was attended by leading figures from government, business and science who all shared the same aim - to promote the application of innovative mathematics to industry, and identify industrial sectors that offer the most exciting opportunities for mathematicians to provide new insight and new ideas.

Up and Running with Bluebeam Revu 20 For Revu Standard

This is a comprehensive textbook consisting of twelve chapters for the Architecture, Engineering, Construction, and Operations (AECO) industry covering markup, measurement, and stamp tools of Bluebeam Revu Standard. The process of Quantity Takeoff using specialized tools in Revu Standard is also discussed in detail in both Imperial and Metric units and will equip the readers to takeoff accurate quantities using PDF files. This book also covers Bluebeam Studio Projects and Sessions in detail helping users learn how to get multiple stakeholders to review and markup PDF files together in realtime. The book also has three project-based chapters at the end that cover the Quantity Takeoff process from the Architecture, Electrical, and HVAC files. The following are some of the salient features of this textbook: - Complimentary access to more than 180 minutes of videos of all tutorials in the book. - 584 pages of the detailed description of using and customizing markup, measurement, and stamp tools. - Around 450 pages of tutorials and projects on real-world examples. - A detailed explanation of Bluebeam Studio Projects and Sessions. - Measurement and quantification tutorials and projects in both Imperial and Metric units. - Project-based chapters on Quantity Takeoff from the Architecture, Electrical, and HVAC files. - "What I do" sections describing some real-world challenges that Revu users face and the author's approach in those situations. - Tips and Notes providing additional information about the topic in discussion. - End of chapter skill evaluation to review the concepts learned in the chapter. The following free teaching resources are available for faculty: PowerPoint slides of every chapter in the textbook. Answers to the Class Test Questions. Help for designing the course curriculum. Additional videos to help plan your classes.

ANSYS Workbench Tutorial Release 14

SDC Publications The exercises in ANSYS Workbench Tutorial Release 14 introduce you to effective engineering problem solving through the use of this powerful modeling, simulation and optimization software suite. Topics that are covered include solid modeling, stress analysis, conduction/convection heat transfer, thermal stress, vibration, elastic buckling and geometric/material nonlinearities. It is designed for practicing and student engineers alike and is suitable for use with an organized course of instruction or for self-study. The compact presentation includes just over 100 end-of-chapter problems covering all aspects of the tutorials.

RF and Microwave Passive and Active Technologies

CRC Press In the high frequency world, the passive technologies required to realize RF and microwave functionality present distinctive challenges. SAW filters, dielectric resonators, MEMS, and waveguide do not have counterparts in the low frequency or digital environment. Even when conventional lumped components can be used in high frequency applications, their behavior does not resemble that observed at lower frequencies. RF and Microwave Passive and Active Technologies provides detailed information about a wide range of component technologies used in modern RF and microwave systems. Updated chapters include new material on such technologies as MEMS, device packaging, surface acoustic wave (SAW) filters, bipolar junction and heterojunction transistors, and high mobility electron transistors (HMETs). The book also features a completely rewritten section on wide bandgap transistors.

Mechatronics

Principles and Applications

Elsevier Mechatronics is a core subject for engineers, combining elements of mechanical and electronic engineering into the development of computer-controlled mechanical devices such as DVD players or anti-lock braking systems. This book is the most comprehensive text available for both mechanical and electrical engineering students and will enable them to engage fully with all stages of mechatronic system design. It offers broader and more integrated coverage than other books in the field with practical examples, case studies and exercises throughout and an Instructor's Manual. A further key feature of the book is its integrated coverage of programming the PIC microcontroller, and the use of MATLAB and Simulink programming and modelling, along with code files for downloading from the accompanying website. * Integrated coverage of PIC microcontroller programming, MATLAB and Simulink modelling * Fully developed student exercises, detailed practical examples * Accompanying website with Instructor's Manual, downloadable code and image bank

Vehicle Thermal Management Systems (VTMS 6)

Wiley Vehicle Thermal Management Systems - VTMS 6 brings together papers from world-renowned experts in their field, creating a volume of up-to-the-minute research and developments. VTMS 6 makes vital reading for all automotive engineers and designers who wish to investigate the most innovative and effective ways of improving passenger thermal comfort while reducing fuel consumption. Also included is a CD-ROM containing all the papers that were presented at the conference. The CD-ROM has been created using Adobe Acrobat Reader 5.0 with Search. Acrobat Reader is a unique software application that allows the user the opportunity to view, search, download, and print information electronically generated and produced in PDF format. It has extensive search facilities by author, subject, key-words, etc. Topics covered include: Heat and A/C heat and A/C Vehicle Comfort Heat Exchanger/Manufacture Emissions Alternate Power Trains Total Systems Cooling Systems Engines Underhood Heat Exchangers

Sustainability for 3D Printing

Springer Nature With advancement in modern technology human life span in 21st century has significantly improved as compared to past centuries. Indeed, the manufacturing and household wastes have also boosted in the same era, presenting a hazardous condition to the various living beings. However, through smart methodologies, it can be possible to recycle/reuse of the different types of wastes as a feedstock convenient for specialized manufacturing technologies, such as 3D printing. This means that through proper facilities the waste can be used as the raw material for the printing technologies with characteristic at par with the virgin feedstock. Furthermore, producing the feedstock using waste materials will help to reduce the cost of the processing material, productivity and eco-friendliness of this manufacturing technology. This book will cover a boarder aspect of such efforts wherein various applications and state of art solutions will be discussed in a comprehensive way. This book will be much interest for academics, research and entrepreneur who are working in the field materials science, 3D printing, and manufacturing because of its coverage of state of art solution in the field of commercial, industrial and healthcare products.

Reacting Flows: Combustion and Chemical Reactors

Combustion and Chemical Reactors

American Mathematical Soc. These two volumes represent the culmination of the Special Year '84-'85 in Reacting Flows held at Cornell University. As the proceedings of the 1985 AMS/SIAM Summer Seminar in Applied Mathematics, the volumes focus on both mathematical and computational questions in combustion and chemical reactors. They are addressed to researchers and graduate students in the theory of reacting flows. Together they provide a sound basis and many incentives for future research, especially in computational aspects of reacting flows. Although the theory of reacting flows has developed rapidly, researchers in the two subareas of combustion and chemical reactors have not communicated. The main goal of this seminar was to synthesize the mathematical theory and bring it to the interface with large-scale computing. All of the papers have high research value, but the first five introductory lectures should be especially noted.