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Fracture Failure Analysis of Fiber Reinforced Polymer Matrix Composites - Sanjay Mavinkere Rangappa 2021-04-19

This book presents a unified approach to fracture behavior of natural and synthetic fiber-reinforced polymer composites on the basis of fiber orientation, the addition of fillers, characterization, properties and applications. In addition, the book contains an extensive survey of recent improvements in the research and development of fracture analysis of FRP composites that are used to make higher fracture toughness composites in various applications. The FRP composites are an emerging area in polymer science with many structural applications. The rise in materials failure by fracture has forced scientists and researchers to develop new higher strength materials for obtaining higher fracture toughness. Therefore, further knowledge and insight into the different modes of fracture behavior of FRP composites are critical to expanding the range of their application.

Issues in Materials and Manufacturing Research: 2011 Edition - 2012-01-09

Issues in Materials and Manufacturing Research: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Materials and Manufacturing Research. The editors have built Issues in Materials and Manufacturing Research: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Materials and Manufacturing Research in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Materials and Manufacturing Research: 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/>.

Wood Polymer Composites - Sanjay Mavinkere Rangappa 2021-04-27

This book comprehensively covers the different topics of wood polymer composite materials mainly synthesis methods for the composite materials, various characterization techniques to study the superior properties and insights on potential advanced applications. It also discusses the chemistry, fabrication process, properties, applications, recycling and life cycle assessment of wood polymer composites. This is a useful reference source for both engineers and researchers working in composite materials science as well as the students attending materials science, physics, chemistry and engineering courses.

Conversion Coatings for Magnesium and its Alloys - Viswanathan S. Saji 2022-02-01

This book covers fundamentals and recent advancements on conversion coatings for magnesium and its alloys. The contents are presented in two sections, respectively dealing with chemical and electrochemical conversion coatings. The chemical conversion coating section is further subdivided into inorganic conversion coatings, organic conversion coatings and advanced approaches/coatings. The section on electrochemical conversion coatings spans from fundamentals to state-of-the-art progress on electrochemical anodization and plasma electrolytic oxidation of magnesium and its alloys.

Advances in Manufacturing Technology - Somashekhar S. Hiremath 2019-04-17

This volume comprises select papers presented at the International Conference on Advances in Manufacturing Technology (ICAMT 2018). It includes contributions from different researchers and practitioners

working in the field of advanced manufacturing technology. This book covers diverse topics of contemporary manufacturing technology including material processes, machine tools, cutting tools, robotics and automation, manufacturing systems, optimization technologies, 3D scanning and re-engineering, and 3D printing. Computer applications in design, analysis, and simulation tools for solving manufacturing problems at various levels starting from material designs to complex manufacturing systems are also discussed. This book will be useful for students, researchers, and practitioners working in the field of manufacturing technology.

Biobased Composites - Anish Khan 2021-02-03

Explore the world of biocomposites with this one-stop resource edited by four international leaders in the field Biobased Composites: Processing, Characterization, Properties, and Applications delivers a comprehensive treatment of all known characterization methods, properties, and industry applications of biobased composites materials. This unique, one-stop resource covers all major developments in the field from the last decade of research into this environmentally beneficial area. The internationally recognized editors have selected resources that represent advances in the mechanical, thermal, tribological, and water sorption properties of biobased composites, and cover new areas of research in physico-chemical analysis, flame retardancy, failure mechanisms, lifecycle assessment, and modeling of biobased composites. The low weight, low cost, excellent thermal recyclability, and biodegradability of biobased composites make them ideal candidates to replace engineered plastic products derived from fossil fuel. This book provides its readers with the knowledge they'll require to understand a new class of materials increasingly being used in the automotive and packaging industries, aerospace, the military, and construction. It also includes: An extended discussion of the environmental impact of biobased composites using a life cycle methodology A review of forecasts of natural fiber reinforced polymeric composites and its degradability concerns An analysis of the physical and mechanical properties of a biobased composite with sisal powder A comprehensive treatment of the mechanical, thermal, tribological, and dielectric properties of biobased composites A review of processing methods for the manufacture of biobased composites Perfect for materials scientists in private industry, government laboratories, or engaged in academic research, Biobased Composites will also earn a place in the libraries of industrial and manufacturing engineers who seek a better understanding of the beneficial industrial applications of biocomposites in industries ranging from automobiles to packaging.

Current Advances in Mechanical Engineering - Saroj Kumar Acharya 2021-03-18

This book presents select proceedings of the International Conference on Recent Advances in Mechanical Engineering Research and Development (ICRAMERD 2020). The contents focus on latest research and current problems in various branches of mechanical engineering. Some of the topics discussed here include fracture and failure analysis, fuels and alternative fuels, combustion and IC engines, advanced manufacturing technologies, powder metallurgy and rapid prototyping, industrial engineering and automation, supply chain management, design of mechanical systems, vibrations and control engineering, automobile engineering, fluid mechanics and machines, heat transfer, composite materials, micro and nano-engineering for energy storage and conversion, and modeling and simulations. The wide range of topics presented in this book can make it useful for beginners, researchers as well as professionals in mechanical engineering.

Engineering Fluid Dynamics 2018 - Bjørn H. Hjertager 2020-01-15
"Engineering Fluid Dynamics 2018". The topic of engineering fluid

dynamics includes both experimental as well as computational studies. Of special interest were submissions from the fields of mechanical, chemical, marine, safety, and energy engineering. We welcomed both original research articles as well as review articles. After one year, 28 papers were submitted and 14 were accepted for publication. The average processing time was 37.91 days. The authors had the following geographical distribution: China (9); Korea (3); Spain (1); and India (1). Papers covered a wide range of topics, including analysis of fans, turbines, fires in tunnels, vortex generators, deep sea mining, as well as pumps.

Sustainability for 3D Printing - Kamalpreet Sandhu 2021-08-31

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.

Proceedings - Indian Roads Congress 1980

Issues in Mechanical Engineering: 2011 Edition - 2012-01-09

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Engineered Nanomaterials for Innovative Therapies and Biomedicine - Hemen Sarma 2022-02-21

Research on biomedical applications of nanomaterials has exhibited the rapidly evolving field of biomedical sciences by showing how effective they are in treatment. These particles hold considerable potential for biomedical applications. Work is ongoing, and the results suggest a possibility for a sustainable future for nanomaterials in both therapeutic and biomedical fields. This book highlights current and emerging applications, taking global research findings into consideration. We believe the focus on the identification and role of nanomaterial applications in therapeutic and biomedical sciences can lead to novel solutions in the fields. The chapters of this book are disseminated in a manner that can be readily adopted as sources for new and further study. The editors integrate advanced texts in their research that help graduate students, researchers and professors. Additionally, we believe that international readers will be able to make use of this book for reference purposes.

Lightweight Polymer Composite Structures - Sanjay Mavinkere Rangappa 2020-09-01

This book provides a comprehensive account of developments in the area of lightweight polymer composites. It encompasses design and manufacturing methods for the lightweight polymer structures, various techniques, and a broad spectrum of applications. The book highlights fundamental research in lightweight polymer structures and integrates various aspects from synthesis to applications of these materials. Features Serves as a one stop reference with contributions from leading researchers from industry, academy, government, and private research institutions across the globe Explores all important aspects of

lightweight polymer composite structures Offers an update of concepts, advancements, challenges, and application of lightweight structures Current status, trends, future directions, and opportunities are discussed, making it friendly for both new and experienced researchers. Annual Report of the Registrar of Newspapers for India - 1977 Reports for 1958-1970 include catalogues of newspapers published in each state and Union Territory.

Essentials of Heat and Fluid Flow in Porous Media - Arunn Narasimhan 2022-06-03

This textbook provides a general overview of porous media flow, and introduces various theoretical tools to characterize and predict the flow. It has been written for graduate and advanced graduate students in various engineering disciplines. It includes the topics such as fluid flow, conduction, convection, and radiation in porous media as well as porous medium aspects of biological systems. The concepts are supported by numerous solved examples to aid self-learning in students. The textbook also contains illustrated diagrams for better understanding of the concepts. This textbook will be useful for the core course of "Flow through Porous media" for graduate and advanced graduate students in various engineering disciplines. This textbook will also serve as a refresher course for researchers who are engaged in research related to porous media flow.

Green Biocomposites for Biomedical Engineering - Md Enamul Hoque 2021-06-30

Green Biocomposites for Biomedical Engineering: Design, Properties, and Applications combines emergent research outcomes with fundamental theoretical concepts relevant to processing, properties and applications of advanced green composites in the field of biomedical engineering. The book outlines the design elements and characterization of biocomposites, highlighting each class of biocomposite separately. A broad range of biomedical applications for biocomposites is then covered, with a final section discussing the ethics and safety regulations associated with manufacturing and the use of biocomposites. With contributions from eminent editors and recognized authors around the world, this book is a vital reference for researchers in biomedical engineering, materials science and environmental science, both in industry and academia. Provides comprehensive information regarding current advances in the interdisciplinary field of eco-friendly green composite materials for biomedical applications Offers coverage of state-of-the-art physics-based advanced models used in composites Lists a broad range of characterization techniques and biomedical applications **Applications of Computation in Mechanical Engineering** - Dean Vučinić 2022-11-28

This volume includes select peer reviewed proceedings from the 3rd International Conference on Computing in Mechanical Engineering (ICCME 2021) discussing the application of computer based simulations in mechanical and allied engineering disciplines. The book shows advanced applications of numerical techniques in different areas of mechanical engineering. The topics covered include numerical modelling, simulations and optimization best practices in various challenging domains like fluid dynamics, combustion in IC engines, heat transfer analysis, vibration damping and control, chemical and process engineering, mechanics of machining, nano fluidics and material science. This book will be a useful resource to students, researchers and engineers working on multidisciplinary engineering problems, specially focusing on mechanical engineering and applied mathematics issues, with hope that it will impact future developments in engineering disciplines and motivate advancements and innovations in technical sciences.

Telemedicine: The Computer Transformation of Healthcare - Tanupriya Choudhury 2022-08-24

This book provides an overview of the innovative concepts, methodologies and frameworks that will increase the feasibility of the existing telemedicine system. With the arrival of advanced technologies, telehealth has become a new subject, requiring a different understanding of IT devices and of their use, to fulfill health needs. Different topics are discussed - from the basics of TeleMedicine, to help readers understand the technology from ground up, to details about the infrastructure and communication technologies to offer deeper insights into the technology. The use of IoT and cloud services along with the use of blockchain technology in TeleMedicine are also discussed. Detailed information about the use of machine learning and computer vision techniques for the proper transmission of medical data - keeping in mind the bandwidth of the network - are provided. The book will be a readily accessible source of information for professionals working in the area of

information technology as well as for the all those involved in the healthcare environment.

Recent Advances in Materials, Mechanics and Management - Sheela Evangeline 2019-05-14

These proceedings present a selection of papers presented at the 3rd International Conference on Materials Mechanics and Management 2017 (IMMM 2017), which was jointly organized by the Departments of Civil Engineering, Mechanical Engineering and Architecture of College of Engineering Trivandrum. Developments in the fields of materials, mechanics and management have paved the way for overall improvements in all aspects of human life. The quest for meeting the requirements of the rapidly increasing population has led to revolutionary construction and production technologies aiming at optimum management and use of natural resources. The objective of this conference was to bring together experts from academic institutions, industries, research organizations and professionals for sharing of knowledge, expertise and experience in the emerging trends related to Civil Engineering, Mechanical Engineering and Architecture. IMMM 2017 provided opportunities for young researchers to actively engage in research discussions, new research interests, research ethics and professional development.

Sustainable Manufacturing - S. Vinodh 2020-10-26

Sustainability enables the development of products with minimal environment impact coupled with economical and societal benefits. This book provides an understanding of theoretical and practical perspectives pertaining to Sustainable manufacturing. This book focuses on fundamentals, providing insights, concepts, tools, methods, case studies, and practical perspectives taken from research. The book will be of interest to students, researchers and industry practitioners.

Innovations in Additive Manufacturing - M. Adam Khan 2022-01-31

This book presents the history, fundamentals, process development, applications, post-processing, and experimental results from additive manufacturing. The chapters cover surface treatments, modification, advancements in heat treatment, mechanical hardening and its effect on the material properties. This book also presents content on simulation, modeling, and optimization of materials processing and surface engineering techniques.

Issues in Mechanical Engineering: 2013 Edition - 2013-05-01

Issues in Mechanical Engineering / 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Additional Research. The editors have built Issues in Mechanical Engineering: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Additional Research in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Mechanical Engineering: 2013 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/>.

Tribology of Polymer Composites - Sanjay Mavinkere Rangappa 2020-09-22

Tribology of Polymer Composites: Characterization, Properties, and Applications provides an exhaustive overview of the latest research, trends, applications and future directions of the tribology of polymer composites. Covering novel methods for the synthesis of polymer composites and their properties, the book starts by reviewing the fabrication techniques, wear and frictional properties of polymer composite materials. From there, it features chapters looking at the tribological behavior and properties of specific polymer composite materials such as synthetic fiber-reinforced, cellulose fiber-reinforced, wood fiber, synthetic fiber, mineral fiber-reinforced, and thermosetting composites. Final chapters cover the tribology of polymer nanocomposites and particulate polymer composites and their metal coatings. Applied examples spanning a wide range of industries are emphasized in each chapter. Demonstrates the potential of polymer composites and their applications Covers novel methods for the synthesis of polymer composites and their properties Reviews the fabrication techniques, wear and frictional properties of polymer composite materials

Phenolic Polymers Based Composite Materials - Mohammad Jawaid 2020-11-09

This book contains recent research on phenolic resin and its composite

materials. The book covers all types of wood composites, natural fibres and synthetic fibres reinforced composites. It discusses various properties of phenolic composites and presents comparative study with other polymer composites for prospective applications. The chapters in the book present an up-to-date information on the subject area of polymer and composite-based information by prominent researchers in academia and industry as well as government/private research laboratories across the world. The book serves as a holistic reference source for university and college faculties, professionals, postdoctoral research fellows, undergraduate/graduate students, and research and science officers working in the area of polymer science, non-forest products utilization, natural fibres and biomass materials.

Failure of Fibre-Reinforced Polymer Composites - Mohamed Thariq Hameed Sultan 2021-12-14

The proposed book focusses on the theme of failure of polymer composites, focusing on vital aspects of enhancing failure resistance, constituents and repair including associated complexities. It discusses characterization and experimentation of the composites under loading with respect to the specific environment and applications. Further, it includes topics as green composites, advanced materials and composite joint failure, buckling failure, and fiber-metal composite failure. It explains preparation, applications of composites for weight sensitive applications, leading to potential applications and formulations, fabrication of polymer products based on bio-resources. Provides exhaustive understanding of failure and fatigue of polymer composites Covers the failure of fiber reinforced polymer composites, composite joint failure, fiber-metal composite, and laminate failure Discusses how to enhance the resistance against failure of the polymer composites Provides input to industry related and academic orientated research problems Represents an organized perspective and analysis of materials processing, material design, and their failure under loading This book is aimed at researchers, graduate students in composites, fiber reinforcement, failure mechanism, materials science, and mechanical engineering.

Dynamics of Machines and Mechanisms, Industrial Research - K.R. Balasubramanian 2014-07-15

Collection of selected, peer reviewed papers from the 2014 International Mechanical Engineering Congress (IMEC-2014), June 13-15, 2014, Tamil Nadu, India. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 501 papers are grouped as follows: Chapter 1: Advanced Material and Manufacturing Processes, Chapter 2: Nanomaterials and Nanotechnology in Machinery, Chapter 3: Dynamics and Applied Mechanics, Chapter 4: Tribology, Chapter 5: Thermodynamics and Thermal Engineering, Fuel and Diesel, Chapter 6: Applied Fluids Mechanics in Design of Machines and Equipment, Chapter 7: Vibration and Control, Chapter 8: Drive Systems of Machines, Mechatronics, Robotics and Control, Chapter 9: Engineering Development on Sustainable Energy, Chapter 10: Labour Safety, Ergonomics, Reliability and Safety of Machines and Mechanisms, Chapter 11: Industrial Engineering

U.P.S.C. Syllabus for Civil Services Examination -

Recent Advances in Mechanical Engineering - Gaurav Manik 2022-09-08

This book presents the select proceedings of 2nd International Congress on Advances in Mechanical and Systems Engineering (CAMSE 2021). It focuses on the recent advances in mechanical and systems engineering and their growing demands for increase in several design and development activities. The contents in this book cover a blend of mechanical engineering, computer-aided engineering, control engineering, and systems engineering to design and manufacture useful products. Various additional topics covered include mechanics, machines, materials science, thermo-fluids, and control with state-of-the-art computational methods to analyse, innovate, design, implement and operate complex systems which are economic, reliable, efficient and sustainable. Given the contents, this book will be useful for researchers and professionals working in the field of mechanical engineering and allied fields.

Power Plant Engineering - Prof. D.K. Chavan, Prof. G.K. Pathak 2011-03-08

□ABOUT THE BOOK: Power Plant Engineering is a fast developing Branch of mechanical Engineering & its study is essential for the successful execution & maintenance of several mechanical Engineering Works. The author has made an earnest attempt to bring out a book on the subject which may be recognized as a complete text book in all respects. □OUTSTANDING FEATURES: -All topics included in the

chapters have been thoroughly described. -Every topic has been written in most logical sequence maintaining the natural flow to keep the students interested. -Topics of applications of Power plant engg. have been developed in sequence. The students would be able to get the fundamental concept about all topics included in power plant engineering upto the final year in mechanical engineering, -A large number of solved problems on different topics are included. -Numerical problems with answers, as well as theoretical questions have been included for the students to practice. -The coverage of topics in the book is based on syllabi of universities in Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Maharashtra, Punjab and West Bengal & other major universities. -Clear & simple figures have been included in each chapter for better understanding & also to enable students to draw / reproduce these in the examination easily. -In the entire book SI system of units is used. □RECOMMENDATIONS: A textbook for all Engineering Branches, Competitive Examination, ICS, and AMIE Examinations □ABOUT THE AUTHOR: G.K. PATHAK M.E., Senior Faculty Member, MIT-Pune-38 & D.K. CHAVAN B.E.(Mech.) Chartered Engineer Professor In Mechanical Engg. Department M.M.M College Of Engineering Pune-52 □BOOK DETAILS: ISBN : 978-81-89401-42-9 Pages: 1110 + 30 Edition: 2nd, Year -2017 Size: L-23.8 B-18.1 H-4.0 □PUBLISHED BY: STANDARD BOOK HOUSE Since 1960 Unit of Rajsons Publications Pvt Ltd Regd Office: 4262/3A Ground Floor Ansari Road Daryaganj New Delhi-110002 +91 011 43551185/43551085/43751128/23250212 Retail Office : 1705-A Nai Sarak Delhi-110006 011 23265506 Website: www.standardbookhouse.com A venture of Rajsons Group of Companies

Biopolymer Composites in Electronics - Kishor Kumar Sadasivuni 2016-09-10

Biopolymer Composites in Electronics examines the current state-of-the-art in the electronic application based on biopolymer composites. Covering the synthesis, dispersion of fillers, characterization and fabrication of the composite materials, the book will help materials scientists and engineers address the challenges posed by the increased use of biopolymeric materials in electronic applications. The influence of preparation techniques on the generation of micro, meso, and nanoscale fillers, and the effect of filler size and dispersion on various biopolymers are discussed in detail. Applications covered include sensors, actuators, optics, fuel cells, photovoltaics, dielectrics, electromagnetic shielding, piezoelectrics, flexible displays, and microwave absorbers. In addition, characterization techniques are discussed and compared, enabling scientists and engineers to make the correct choice of technique. This book is a 'one-stop' reference for researchers, covering the entire state-of-the-art in biopolymer electronics. Written by a collection of expert worldwide contributors from industry, academia, government, and private research institutions, it is an outstanding reference for researchers in the field of biopolymer composites for advanced technologies. Enables researchers to keep up with the rapid development of biopolymer electronics, which offer light, flexible, and more cost-effective alternatives to conventional materials of solar cells, light-emitting diodes, and transistors Includes thorough coverage of the physics and chemistry behind biopolymer composites, helping readers to become rapidly acquainted with the field Provides in-depth information on the range of biopolymer applications in electronics, from printed flexible conductors and novel semiconductor components, to intelligent labels, large area displays, and solar panels

Recent Trends in Mechanical Engineering - G. S. V. L. Narasimham 2020-10-30

This book consists of peer-reviewed proceedings from the International Conference on Innovations in Mechanical Engineering (ICIME 2020). The contents cover latest research in all major areas of mechanical engineering, and are broadly divided into five parts: (i) thermal engineering, (ii) design and optimization, (iii) production and industrial engineering, (iv) materials science and metallurgy, and (v) multidisciplinary topics. Different aspects of designing, modeling, manufacturing, optimizing, and processing are discussed in the context of emerging applications. Given the range of topics covered, this book can be useful for students, researchers as well as professionals.

Multi-Objective Combinatorial Optimization Problems and Solution Methods - Mehdi Toloo 2022-02-11

Multi-Objective Combinatorial Optimization Problems and Solution Methods discusses the results of a recent multi-objective combinatorial optimization achievement that considered metaheuristic, mathematical programming, heuristic, hyper heuristic and hybrid approaches. In other words, the book presents various multi-objective combinatorial optimization issues that may benefit from different methods in theory

and practice. Combinatorial optimization problems appear in a wide range of applications in operations research, engineering, biological sciences and computer science, hence many optimization approaches have been developed that link the discrete universe to the continuous universe through geometric, analytic and algebraic techniques. This book covers this important topic as computational optimization has become increasingly popular as design optimization and its applications in engineering and industry have become ever more important due to more stringent design requirements in modern engineering practice. Presents a collection of the most up-to-date research, providing a complete overview of multi-objective combinatorial optimization problems and applications Introduces new approaches to handle different engineering and science problems, providing the field with a collection of related research not already covered in the primary literature Demonstrates the efficiency and power of the various algorithms, problems and solutions, including numerous examples that illustrate concepts and algorithms

Advances in Micro and Nano Manufacturing and Surface Engineering - Bijoy Bhattacharyya 2022-09-12

This book presents select proceedings of the 8th International and 29th All India Manufacturing Technology, Design, and Research Conference (AIMTDR 2021). It discusses the latest advances in miniature manufacturing, machining of miniature components, surface engineering, nanomaterials, nanotechnology, industry 4.0, optimization techniques, micro-electric discharge machining, electrochemical micro-machining, thin films, optimization of micro-machining process parameters, machining of nano-composites, characterization using atomic force microscopy, micro tool fabrications, characterization of nano-composites, surface roughness analysis, tribological performance of surface coated materials, and sustainability in manufacturing. The contents of this book are useful for students, researchers, and as well as industry professionals working in the various areas of mechanical engineering.

Machines, Mechanism and Robotics - Rajeev Kumar 2021-07-21

This volume includes select papers presented during the 4th International and 19th National Conference on Machines and Mechanism (iNaCoMM 2019), held in Indian Institute of Technology, Mandi. It presents research on various aspects of design and analysis of machines and mechanisms by academic and industry researchers.

Recent Advancements in Mechanical Engineering - T. S. Sudarshan 2022-09-20

This book presents select proceedings of the 2nd International Conference on Recent Advancements of Mechanical Engineering (ICRAME 2021), which was held during 7th to 9th February 2021 at National Institute of Technology Silchar. The book entails the recent developments in a range of areas related to mechanical engineering. It examines the state-of-the-art researches in the areas of thermal engineering, engineering design, manufacturing/ production engineering and surface engineering. Various topics covered include advanced energy sources, bio-thermal applications, techniques in fluid flow, computing in applied mechanics and product design, dynamics and control of structures/ systems, fracture and failure mechanics, solid mechanics, casting, welding, brazing, soldering, JIT, MRP, supply chain management and logistics. The book will be useful for researchers and professionals working in the areas of mechanical engineering.

Advances in Applied Mechanical Engineering - Hari Kumar Voruganti 2020-02-01

This book presents select peer reviewed proceedings of the International Conference on Applied Mechanical Engineering Research (ICAMER 2019). The books examines various areas of mechanical engineering namely design, thermal, materials, manufacturing and industrial engineering covering topics like FEA, optimization, vibrations, condition monitoring, tribology, CFD, IC engines, turbo-machines, automobiles, manufacturing processes, machining, CAM, additive manufacturing, modelling and simulation of manufacturing processing, optimization of manufacturing processing, supply chain management, and operations management. In addition, recent studies on composite materials, materials characterization, fracture and fatigue, advanced materials, energy storage, green building, phase change materials and structural change monitoring are also covered. Given the contents, this book will be useful for students, researchers and professionals working in mechanical engineering and allied fields.

Machinability of Fibre-Reinforced Plastics - J. Paulo Davim 2015-06-16

Presents polymer-based fibre reinforced composite materials and addresses the characteristics of these widely used materials like low density and coefficient of thermal expansion, specific strength with

better fatigue resistance and modulus. The topics discussed are laser-based material machining, high-speed robotic end milling and LFRP modeling, including definitions, features, machine elements (system set-up) as well as experimental and theoretical investigations. These investigations include effects of input variables (tool rotation speed, feed rate and ultrasonic power) on cutting force, torque, cutting temperature, edge quality, surface roughness, burning of machined surface, tool wear, material removal rate, power consumption and feasible regions. Further a detailed literature review on drilling polymer composites with a focus on delamination is included. Aspects such as delamination mechanisms, fabrication methods, the type of drilling process adopted by various researchers, cutting parameters employed during drilling, mathematical delamination modelling, effect of thrust force, spindle speed, thermal loads, tool wear, surface roughness, tool geometry and tool materials on delamination and hole quality are summarized. In addition an approach of digital image processing in delamination assessment completes the approach. - Discusses Carbon Fiber Reinforced Plastics modern technologies for automated, highly productive and cost efficient processing. - Great value for final undergraduate engineering courses or as a topic on manufacturing with FRPs at the postgraduate level as well as a useful reference for academics, researchers, manufacturing, mechanical and materials engineers, professionals in machining of FRPs

and related industries.

Indian Roads Congress Journal - 1980

Advances in Materials Processing and Manufacturing Applications

- Amar Patnaik 2021-06-22

This book presents selected papers from the International Conference on Advances in Materials Processing and Manufacturing Applications (iCADMA 2020), held on November 5-6, 2020, at Malaviya National Institute of Technology, Jaipur, India. iCADMA 2020 proceedings is divided into four topical tracks - Advanced Materials, Materials Manufacturing and Processing, Engineering Optimization and Sustainable Development, and Tribology for Industrial Application.

Advanced Applications of Computational Mathematics - Akshay Kumar 2022-09-01

This book "Advanced Applications of Computational Mathematics" covers multidisciplinary studies containing advanced research in the field of computational and applied mathematics. The book includes research methodology, techniques, applications, and algorithms. The book will be very useful to advanced students, researchers and practitioners who are involved in the areas of computational and applied mathematics and engineering.