

Gecko Heat Transfer Solutions

This open access book contains a structured collection of the complete solutions of all essential axisymmetric contact problems. Based on a systematic distinction regarding the type of contact, the regime of friction and the contact geometry, a multitude of technically relevant contact problems from mechanical engineering, the automotive industry and medical engineering are discussed. In addition to contact problems between isotropic elastic and viscoelastic media, contact problems between transversal-isotropic elastic materials and functionally graded materials are addressed, too. The optimization of the latter is a focus of current research especially in the fields of actuator technology and biomechanics. The book takes into account adhesive effects which allow access to contact-mechanical questions about micro- and nano-electromechanical systems. Solutions of the contact problems include both the relationships between the macroscopic force, displacement and contact length, as well as the stress and displacement fields at the surface and, if appropriate, within the half-space medium. Solutions are always obtained with the simplest available method - usually with the method of dimensionality reduction (MDR) or approaches which use the solution of the non-adhesive normal contact problem to solve the respective contact problem.

Adhesion in Biological Systems summarizes the knowledge of adhesion in the presence of moisture, a condition required in almost all biological systems. Organized into four parts with a total of 17 chapters, this book begins with the principles of adhesion in biological systems. Then, it describes the various biological adhesives, as well as the adhesives for soft and hard tissues. Scientists in a number of fields, including physics, chemistry, zoology, botany, engineering, medicine, and pharmacy, will benefit from this book.

Developments in Surface Contamination and Cleaning: Applications of Cleaning Techniques, Volume Eleven, part of the Developments in Surface Contamination and Cleaning series, provides a guide to recent advances in the application of cleaning techniques for the removal of surface contamination in various industries, such as aerospace, automotive, biomedical, defense, energy, manufacturing, microelectronics, optics and xerography. The material in this new edition compiles cleaning applications into one easy reference that has been fully updated to incorporate new applications and techniques. Taken as a whole, the series forms a unique reference for professionals and academics working in the area of surface contamination and cleaning. Presents the latest reviewed technical information on precision cleaning applications as written by established experts in the field Provides a single source on the applications of innovative precision cleaning techniques for a wide variety of industries Serves as a guide to the selection of precision cleaning techniques for specific applications

Human-Computer Interaction. Interaction Contexts

Select Proceedings of ICAMER 2019

Handbook of Nanomaterials for Industrial Applications

Soviet Science Review

Technical Abstract Bulletin

Advances in Applied Mechanical Engineering

These ten volumes provide an excellent, in-depth overview of all nanomaterial types and their uses in the life sciences. Each volume is dedicated to a specific material class and covers fundamentals, synthesis strategies, structure-property relationships, material behaviour finetuning, biological effects and applications in the life sciences. All important material classes are covered: metallic, metal oxide, magnetic, carbon, polymeric, composite and semiconducting nanomaterials as well as nanostructured surfaces and films. It serves as a major reference work in the field that brings together pertinent knowledge formerly widely spread out over many different sources.

Scientists and engineers are nowadays faced with the problem of optimizing complex systems subject to constraints from, ecology, economics, and thermodynamics. It is chiefly to the last of these that this volume is addressed. Intended for physicists, chemists, and engineers, the book uses examples from solar, thermal, mechanical, chemical, and environmental engineering to focus on the use of thermodynamic criteria for optimizing energy conversion and transmission. The early chapters centre on solar energy conversion, the second section discusses the transfer and conversion of chemical energy, while the concluding chapters deal with geometric methods in thermodynamics.

Heat exchangers with minichannel and microchannel flow passages are becoming increasingly popular due to their ability to remove large heat fluxes under single-phase and two-phase applications. Heat Transfer and Fluid Flow in Minichannels and Microchannels methodically covers gas, liquid, and electrokinetic flows, as well as flow boiling and condensation, in minichannel and microchannel applications. Examining biomedical applications as well, the book is an ideal reference for anyone involved in the design processes of microchannel flow passages in a heat exchanger. Each chapter is accompanied by a real-life case study New edition of the first book that solely deals with heat and fluid flow in minichannels and microchannels Presents findings that are directly useful to designers; researchers can use the information in developing new models or identifying research needs

General Chemistry

An Introduction to the Thermophysics of Vaporization and Condensation Processes in Heat Transfer Equipment, Second Edition

Temperature-Dependent Sex Determination in Vertebrates

Design & Nature IV

Fabrication, Implementation, and Applications

Reptile Medicine and Surgery - E-Book

The Casimir effect arises from the zero-point energy of a quantized field and can exert a measurable force on a conducting plate. It is important in some modern developments in cosmology and

elementary particle physics.

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.

The two-volume set LNCS 10271 and 10272 constitutes the refereed proceedings of the 19th International Conference on Human-Computer Interaction, HCI 2017, held in Vancouver, BC, Canada, in July 2017. The total of 1228 papers presented at the 15 colocated HCI 2017 conferences was carefully reviewed and selected from 4340 submissions. The papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. They cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The papers included in this volume cover the following topics: games in HCI; mobile and wearable interaction; HCI, children and learning; and HCI in complex human environments.

Handbook of Contact Mechanics

Dissertation Abstracts International

Backpacker

Comparing Design in Nature with Science and Engineering

Strategies and Solutions

Biophysical Ecology

This English version is edited from Pharmacopoeia of the People's Republic of China 1995 edition.

The vertebrate eye has been, and continues to be, an object of interest and of inquiry for biologists, physicists, chemists, psychologists, and others. Quite apart from its important role in the development of ophthalmology and related medical disciplines, the vertebrate eye is an exemplar of the ingenuity of living systems in adapting to the diverse and changing environments in which vertebrates have evolved. The wonder is not so much that the visual system, like other body systems, has been able to adapt in this way, but rather that these adaptations have taken such a variety of forms. In a previous volume in this series (VIII/I) Eakin expressed admiration for the diversity of invertebrate photoreceptors. A comparable situation exists for the vertebrate eye as a whole and one object of this volume is to present to the reader the nature of this diversity. One result of this diversification of ocular structures and properties is that the experimental biologist has available a number of systems for study that are unique or especially favorable for the investigation of particular questions in visual science or neurobiology. This volume includes some examples of progress made by the use of such specially selected vertebrate systems. It is our hope that this comparative approach will continue to reveal new and useful preparations for the examination of important questions.

Tribology is the study of friction, wear and lubrication. Recently, the concept of "green tribology" as "the science and technology of the tribological aspects of ecological balance and of environmental and biological impacts" was introduced. The field of green tribology includes tribological technology that mimics living nature (biomimetic surfaces) and thus is expected to be environmentally friendly, the control of friction and wear that is of importance for energy conservation and conversion, environmental aspects of lubrication and surface modification techniques, and tribological aspects of green applications such as wind-power turbines or solar panels. This book is the first comprehensive volume on green tribology. The chapters are prepared by leading experts in their fields and cover such topics as biomimetics, environmentally friendly lubrication, tribology of wind turbines and renewable sources of energy, and ecological impact of new technologies of surface treatment.

Science, Manufacturing, Commercialization

Adhesion in Biological Systems

The Visual System in Vertebrates

Pharmacopoeia of the People's Republic of China

Reptiles

The Casimir Effect and Its Applications

Liquid-Vapor Phase-Change Phenomena presents the basic thermophysics and transport principles that underlie the mechanisms of condensation and vaporization processes. The text has been thoroughly updated to reflect recent innovations in research and to strengthen the fundamental focus of the first edition. Starting with an integrated presentation of the nonequilibrium thermodynamics and interfacial phenomena associated with vaporization and condensation, coverage follows of the heat transfer and fluid flow mechanisms in such processes. The second edition includes significant new material on the nanoscale and microscale thermophysics of boiling and condensation phenomena and the use of advanced computational tools to create new models of phase-change events. The importance of basic phenomena to a wide variety of applications is emphasized and illustrated throughout using examples and problems. Suitable for senior undergraduate and first-year graduate students in mechanical or chemical engineering, the book can also be a helpful reference for practicing engineers or scientists studying the fundamental physics of nucleation, boiling and condensation.

Protective Textiles from Natural Resources provides systematic coverage of the fundamentals, production methods, processing techniques, characterization techniques, properties and applications of natural textile products for protective purposes. The subject of this book is an important kind of technical textile designed to protect the wearer from injuries, illness and death. They offer enhanced protection against phenomena including heat, cold, flame, chemical, biological, nuclear agents, radiation, disaster and even ballistics. As no single type of clothing can be adequate for all kinds of protection, extensive research is carried out to develop protective clothing for specialized civilian and military applications. The latest research on the use of natural fibres in PPE is also covered, which could make a significant contribution to the fight against the spread of COVID-19. This comprehensive guide explores a wide variety of themes from material processing and design to finished products, through protection against specific hazards to specific applications, including all significant new developments on natural materials for protective textiles. Explains the latest technologies related to fibre extraction from natural sources, chemical treatments, weave constructions, fabric finishes and coatings. Includes the latest research on natural fibers in personal protective equipment (PPE) to protect wearers from bacterial and viral contamination. Explains the state of the art in testing methods and standards for protective clothing.

Handbook of Nanomaterials for Industrial Applications explores the use of novel nanomaterials in the industrial arena. The book covers nanomaterials and the techniques that can play vital roles in many industrial procedures, such as increasing sensitivity, magnifying precision and improving production limits. In addition, the book stresses that these approaches tend to provide green, sustainable solutions for industrial developments. Finally, the legal, economical and toxicity aspects of nanomaterials are covered in detail, making this is a comprehensive, important resource for anyone wanting to learn more about how nanomaterials are changing the way we create products in modern industry. Demonstrates how cutting-edge developments in nanomaterials translate into real-world innovations in a range of industry sectors Explores how using nanomaterials can help engineers to create innovative consumer products Discusses the legal, economical and toxicity issues arising from the industrial applications of nanomaterials

19th International Conference, HCI International 2017, Vancouver, BC, Canada, July 9-14, 2017, Proceedings, Part II

Aerospace Engineering

Biomimetics, Energy Conservation and Sustainability

Microfluidics and Nanofluidics Handbook

Process Dynamics and Control

The sciences and engineering, B

This second volume on a burgeoning field retains the proven concept of the spectacularly successful first one, extending and supplementing it. Individual sections are each dedicated to nanoparticles, nanostructures and patterns, nanodevices and machines, and nanoanalytics. Essential reading for an entire generation of scientists, this authoritative survey defines one of the most important new scientific fields to have emerged for many decades.

Edited by the world's foremost authorities on the subject, with essays by leading scholars in the field, this work shows how the sex of reptiles and many fish is determined not by the chromosomes they inherit but by the temperature at which incubation takes place.

Developments in Surface Contamination and Cleaning: Applications of Cleaning TechniquesElsevier

Bioadhesion

Dissertation Abstracts

Indian Science Abstracts

Developments in Surface Contamination and Cleaning: Applications of Cleaning Techniques

Cumulated Index Medicus

More Concepts and Applications

Includes section, "Recent book acquisitions" (varies: Recent United States publications) formerly published separately by the U.S. Army Medical Library.

Nanotube Superfiber Materials: Science, Manufacturing, Commercialization, Second Edition, helps engineers and entrepreneurs understand the science behind the unique properties of nanotube fiber materials, how to efficiently and safely produce them, and how to transition them into commercial products. Each chapter gives an account of the basic science, manufacturing, properties and commercial potential of a specific nanotube material form and its application. New discoveries and technologies are explained, along with experiences in handing-off the improved materials to industry. This book spans nano-science, nano-manufacturing, and the commercialization of nanotube superfiber materials. As such, it opens up the vast commercial potential of nanotube superfiber materials. Applications for nanotube superfiber materials cut across most of the fields of engineering, including spacecraft, automobiles, drones, hyperloop tracks, water and air filters, infrastructure, wind energy, composites, and medicine where nanotube materials enable development of tiny machines that can work inside our bodies to diagnose and treat disease. Provides up to date information on the applications of nanotube fiber materials Explores both the manufacturing and commercialization of nanotube superfibers Sets out the processes for producing macro-scale materials from carbon nanotubes Describes the unique properties of these materials

Backpacker brings the outdoors straight to the reader's doorstep, inspiring and enabling them to go more places and enjoy nature more often. The authority on active adventure, Backpacker is the world's first GPS-enabled magazine, and the only magazine whose editors personally test the hiking trails, camping gear, and survival tips they publish. Backpacker's Editors' Choice Awards, an industry honor recognizing design, feature and product innovation, has become the gold standard against which all other outdoor-industry awards are measured.

The humanities and social sciences. A

Pandex Current Index to Scientific and Technical Literature

Bibliography of Agriculture

Knowledge Retention

A Textbook of General Physiology

Green Tribology

As baby boomers approach retirement age and the work patterns of younger workers constantly change, many organizations worldwide are experiencing a far-reaching knowledge bleed. Therefore, it is imperative that organizations find ways to best leverage and retain that vital knowledge before workers leave the organization and attrition occurs. Answers the Call of Businesses Worldwide In light of global workforce changes, many organizations' are faced with a dilemma - how to maintain the right set of people at the right time in order to meet the company's long-term goals and vision. Knowledge Retention: Strategies and Solutions supplies the answer in the form of strategic human capital management. Written by one of the most sought after knowledge management experts, this easy-to-read, concise guide helps companies adopt proven retention strategies and techniques to capture and share knowledge which is otherwise at risk of being lost in transition. The text also discusses key case studies by leading organizations applying knowledge retention strategies. Build Institutional Memory and Social Networks Addresses These Important Questions: How do you know what knowledge is important to capture? What is the best approach to developing a knowledge retention framework? How do you calculate the loss of knowledge? What are the appropriate steps once the damage is assessed? How do you identify knowledge flows and gaps in an organization? Since you never know when someone will retire or move on, the book emphasizes the importance of minimizing business disruption and accelerating competency development. Operating around four key framework pillars - competency, performance, knowledge, and change management - this text demonstrates why a knowledge-retention strategy should be woven into an organization's fabric from day one.

The objective of this book is to make analytical methods available to students of ecology. The text deals with concepts of energy exchange, gas exchange, and chemical kinetics involving the interactions of plants and animals with their environments. The first four chapters are designed to show the applications of biophysical ecology in a preliminary, simplified manner. Chapters 5-10, treating the topics of radiation, convection, conduction, and evaporation, are concerned with the physical environment. The spectral properties of radiation and matter are thoroughly described, as well as the geometrical, instantaneous, daily, and annual amounts of both shortwave and longwave radiation. Later chapters give the more elaborate analytical methods necessary for the study of photosynthesis in plants and energy budgets in animals. The final chapter describes the temperature responses of plants and animals. The discipline of biophysical ecology is rapidly growing, and some important topics and references are not included due to limitations of space, cost, and time. The methodology of some aspects of ecology is illustrated by the subject matter of this book. It is hoped that future students of the subject will carry it far beyond its present status. Ideas for advancing the subject matter of biophysical ecology exceed individual capacities for effort, and even today, many investigators in ecology are studying subjects for which they are inadequately prepared. The potential of modern science, in the minds and hands of skilled investigators, to of the interactions of organisms with their advance our understanding environment is enormous.

This 3rd edition provides chemical engineers with process control techniques that are used in practice while offering detailed mathematical analysis. Numerous examples and simulations are used to illustrate key theoretical concepts. New exercises are integrated throughout several chapters to reinforce concepts.

Nanobiotechnology II

Biomimetic and Bioinspired Nanomaterials

Current List of Medical Literature

Thermodynamics of Energy Conversion and Transport

Nanotube Superfiber Materials

This comprehensive handbook presents fundamental aspects, fabrication techniques, introductory materials on microbiology and chemistry, measurement techniques, and applications of microfluidics and nanofluidics. The second volume focuses on topics related to experimental and numerical methods. It also covers fabrication and applications in a variety of areas, from aerospace to biological systems. Reflecting the inherent nature of microfluidics and nanofluidics, the book includes as much interdisciplinary knowledge as possible. It provides the fundamental science background for newcomers and advanced techniques and concepts for experienced researchers and professionals.

This outstanding clinical reference provides valuable insights into solving clinical dilemmas, formulating diagnoses, developing therapeutic plans, and verifying drug dosages for both reptiles and amphibians. The information is outlined in an easy-to-use format for quick access that is essential for emergency and clinical situations. Discusses veterinary medicine and surgery for both reptiles and amphibians Features complete biology of snakes, lizards, turtles, and crocodilians Provides step-by-step guidelines for performing special techniques and procedures such as anesthesia, clinical pathology, diagnostic imaging, euthanasia and necropsy, fracture management, soft tissue surgery, and therapeutics Covers specific diseases and conditions such as anorexia, aural abscesses, and digit abnormalities in a separate alphabetically organized section 53 expert authors contribute crucial information to the study of reptiles and offer their unique perspectives on particular areas of study The expansive appendix includes a reptile and amphibian formulary A new full-color format features a wealth of vivid images and features that highlight important concepts and bring key procedures to life 29 new chapters covering diverse topics such as stress in captive reptiles, emergency and critical care, ultrasound, endoscopy, and working with venomous species Many new expert contributors that share valuable knowledge and insights from their experiences in practicing reptile medicine and surgery Unique coverage of cutting-edge imaging techniques, including CT and MRI

The eleventh edition was carefully reviewed with an eye toward strengthening the content available in OWLv2, end-of-chapter questions, and updating the presentation. Nomenclature changes and the adoption of IUPAC periodic table conventions are highlights of the narrative revisions, along with changes to the discussion of d orbitals. In-text examples have been reformatted to facilitate learning, and the accompanying Interactive Examples in OWLv2 have been redesigned to better parallel the problem-solving approach in the narrative. New Capstone Problems have been added to a number of chapters. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Heat Transfer and Fluid Flow in Minichannels and Microchannels

Liquid Vapor Phase Change Phenomena

Exact Solutions of Axisymmetric Contact Problems

Protective Textiles from Natural Resources

Novel Carbon-nanotube-based Interface Materials and Two-phase Microchannel Cold Plates for High-density Electronics Cooling

Design in engineering and science has often been inspired by nature. This has been more evident in recent years, after a period during which our civilization thought in terms of taming rather than working in harmony with nature. The consequences of that approach are still with us and have resulted in a world increasingly homogenized, lacking in biodiversity and with increased pollution. Mankind has been slow to learn and even slower to apply the lessons that nature offers, in spite of the urgency of our predicament. This book contains papers presented at the fourth International Conference on Comparing Design in Nature with Science and Engineering . The emphasis of this Volume is on engineering and architectural applications and on biomimetics, reflecting in some measure current interest in finding environmentally friendly solutions which also optimize the use of natural resources. The contributions have been arranged into the following topics: Biomimetics; Shape and Form in Engineering Nature; Nature and Architectural Design; Natural Materials and Surfaces; Complexity; and Education.