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Maths for Chemists - Martin Cockett
2012

This is a new edition of the combined Volumes I and II of the hugely successful Tutorial Chemistry Texts Maths for Chemists. The new edition will continue to provide an excellent resource for all undergraduate chemistry students particularly focussing on the needs of students who may not have studied mathematics beyond GCSE level (or equivalent). The text is introductory in nature and adopts a sympathetic approach for students who need support and understanding in working with the diverse mathematical tools required in a typical chemistry degree course. The topics covered include: power series, which are used to formulate alternative representations of functions and are important in model building in chemistry; complex numbers and complex functions, which appear in quantum chemistry, spectroscopy and crystallography; matrices and determinants used in the solution of sets of simultaneous linear equations and in the representation of geometrical transformations used to describe

molecular symmetry characteristics; and vectors which allow the description of directional properties of molecules. New material includes a new chapter on Statistics and Error Analysis. Ideal for the needs of undergraduate chemistry students, Maths for Chemists is a comprehensive text consisting of short, single topic or modular texts concentrating on the fundamental areas of chemistry taught in undergraduate science courses. It provides a concise account of the basic principles underlying a given subject, embodying an independent-learning philosophy and including worked examples.

Cladistics and the Origin of Birds - Frances C. James 2010-07-14

Materials and Processes - Barrie D. Dunn 2015-12-29

The objective of this book is to assist scientists and engineers select the ideal material or manufacturing process for particular applications; these could cover a wide range of fields, from light-weight structures to electronic hardware. The book will help in problem solving as it also presents

more than 100 case studies and failure investigations from the space sector that can, by analogy, be applied to other industries. Difficult-to-find material data is included for reference. The sciences of metallic (primarily) and organic materials presented throughout the book demonstrate how they can be applied as an integral part of spacecraft product assurance schemes, which involve quality, material and processes evaluations, and the selection of mechanical and component parts. In this successor edition, which has been revised and updated, engineering problems associated with critical spacecraft hardware and the space environment are highlighted by over 500 illustrations including micrographs and fractographs. Space hardware captured by astronauts and returned to Earth from long durations in space are examined. Information detailed in the Handbook is applicable to general terrestrial applications including consumer electronics as well as high reliability systems associated with aeronautics, medical equipment and ground transportation. This Handbook is also directed to those involved in maximizing the reliability of new materials and processes for space technology and space engineering. It will be invaluable to engineers concerned with the construction of advanced structures or mechanical and electronic sub-systems.

Mobile Microrobotics - Metin Sitti
2017-06-16

The first textbook on micron-scale mobile robotics, introducing the fundamentals of design, analysis, fabrication, and control, and drawing on case studies of existing approaches. Progress in micro- and nano-scale science and technology has created a demand for new microsystems for high-impact applications in healthcare, biotechnology,

manufacturing, and mobile sensor networks. The new robotics field of microrobotics has emerged to extend our interactions and explorations to sub-millimeter scales. This is the first textbook on micron-scale mobile robotics, introducing the fundamentals of design, analysis, fabrication, and control, and drawing on case studies of existing approaches. The book covers the scaling laws that can be used to determine the dominant forces and effects at the micron scale; models forces acting on microrobots, including surface forces, friction, and viscous drag; and describes such possible microfabrication techniques as photo-lithography, bulk micromachining, and deep reactive ion etching. It presents on-board and remote sensing methods, noting that remote sensors are currently more feasible; studies possible on-board microactuators; discusses self-propulsion methods that use self-generated local gradients and fields or biological cells in liquid environments; and describes remote microrobot actuation methods for use in limited spaces such as inside the human body. It covers possible on-board powering methods, indispensable in future medical and other applications; locomotion methods for robots on surfaces, in liquids, in air, and on fluid-air interfaces; and the challenges of microrobot localization and control, in particular multi-robot control methods for magnetic microrobots. Finally, the book addresses current and future applications, including noninvasive medical diagnosis and treatment, environmental remediation, and scientific tools.

Bibliographic Guide to Psychology -
New York Public Library. Research
Libraries 1985

Innovative Wastewater Treatment &

**Resource Recovery Technologies:
Impacts on Energy, Economy and
Environment** - Juan M. Lema 2017-06-15

This book introduces the 3R concept applied to wastewater treatment and resource recovery under a double perspective. Firstly, it deals with innovative technologies leading to: Reducing energy requirements, space and impacts; Reusing water and sludge of sufficient quality; and Recovering resources such as energy, nutrients, metals and chemicals, including biopolymers. Besides targeting effective C,N&P removal, other issues such as organic micropollutants, gases and odours emissions are considered. Most of the technologies analysed have been tested at pilot- or at full-scale. Tools and methods for their Economic, Environmental, Legal and Social impact assessment are described. The 3R concept is also applied to Innovative Processes design, considering different levels of innovation: Retrofitting, where novel units are included in more conventional processes; Re-Thinking, which implies a substantial flowsheet modification; and Re-Imagining, with completely new conceptions. Tools are presented for Modelling, Optimising and Selecting the most suitable plant layout for each particular scenario from a holistic technical, economic and environmental point of view.

Handbook of Heat Transfer - Warren M. Rohsenow 1973

Boilerplate Clauses, International Commercial Contracts and the Applicable Law - Giuditta Cordero-Moss 2011-03-17

With the aim of creating an autonomous regime for the interpretation and application of the contract, boilerplate clauses are often inserted into international commercial contracts without negotiations or regard for their legal effects. The assumption that a

sufficiently detailed and clear language will ensure that the legal effects of the contract will only be based on the contract, as opposed to the applicable law, was originally encouraged by English courts, and today most international contracts have these clauses, irrespective of the governing law. This collection of essays demonstrates that this assumption is not fully applicable under systems of civil law, because these systems are based on principles, such as good faith and loyalty, which contradict this approach.

Magnetic Fields in the Solar System - Hermann Lühr 2018-01-22

This book addresses and reviews many of the still little understood questions related to the processes underlying planetary magnetic fields and their interaction with the solar wind. With focus on research carried out within the German Priority Program "PlanetMag", it also provides an overview of the most recent research in the field. Magnetic fields play an important role in making a planet habitable by protecting the environment from the solar wind. Without the geomagnetic field, for example, life on Earth as we know it would not be possible. And results from recent space missions to Mars and Venus strongly indicate that planetary magnetic fields play a vital role in preventing atmospheric erosion by the solar wind. However, very little is known about the underlying interaction between the solar wind and a planet's magnetic field. The book takes a synergistic interdisciplinary approach that combines newly developed tools for data acquisition and analysis, computer simulations of planetary interiors and dynamos, models of solar wind interaction, measurement of ancient terrestrial rocks and meteorites, and laboratory

investigations.

Formulae and Tables for Examinations of the Faculty of Actuaries and the Institute of Actuaries - 2002-01-01

Structural Engineer's Pocket Book, 2nd Edition - Fiona Cobb 2009

"Now in its second edition, the Structural Engineer's Pocket Book is a comprehensive pocket reference guide for professional and student structural engineers, particularly those taking the iStructE Part 3 Exam. The combination of tables, data, facts, formulae and rules of thumb make it a valuable aid in scheme design for structural engineers in the office, in transit or on site." "Concise and precise, this second edition is updated to reflect changes to the British Standards, which are used and referenced throughout, as well as the addition of a new section on sustainability. Other subject areas include timber, masonry, steel, concrete, aluminium and glass." -- Book Jacket.

Regulating Telecommunications in South Africa - Charley Lewis 2021-06-25

This book provides the first full account of the 20-year story of universal access and service in South Africa's ICT sector. From 1994 the country's first democratic government set out to redress the deep digital divide afflicting the overwhelming majority of its citizens, already poor and disenfranchised, but likewise marginalised in access to telephone infrastructure and services. By this time, an incipient global policy regime was driving reforms in the telecomms sector, and also developing good practice models for universal service. Policy diffusion thus led South Africa to adopt, adapt and implement a slew of these interventions. In particular, roll-out obligations were imposed on

licensees, and a universal service fund was established. But an agency with a universal service mandate was also created; and licences in under-serviced areas were awarded. The book goes on to identify and analyse the policy success and failure of each of these interventions, and suggests some lessons to be learned.

Scratching Beneath the Surface - Jeff Hutchens 2018-05-10

Have you ever wondered what hypnotherapy can do for you? Is it time for your transformation from the inside out? Are you looking for real change to deal with those issues? Scratching beneath the surface is about getting a little deeper and how hypnotherapy can help...

Physics of the Space Environment - Tamas I. Gombosi 1998-10-13

This book provides a comprehensive introduction to the physical phenomena that result from the interaction of the sun and the planets - often termed space weather. Physics of the Space Environment explores the basic processes in the Sun, in the interplanetary medium, in the near-Earth space, and down into the atmosphere. The first part of the book summarizes fundamental elements of transport theory relevant for the atmosphere, ionosphere and the magnetosphere. This theory is then applied to physical phenomena in the space environment. The fundamental physical processes are emphasized throughout, and basic concepts and methods are derived from first principles. This book is unique in its balanced treatment of space plasma and aeronomical phenomena. Students and researchers with a basic mathematics and physics background will find this book invaluable in the study of phenomena in the space environment.

Vacuum Deposition onto Webs, Films and Foils - Charles Bishop 2015-08-15
Vacuum Deposition onto Webs: Films

and Foils, Third Edition, provides the latest information on vacuum deposition, the technology that applies an even coating to a flexible material that can be held on a roll, thereby offering a much faster and cheaper method of bulk coating than deposition onto single pieces or non-flexible surfaces such as glass. This technology has been used in industrial-scale applications for some time, including a wide range of metalized packaging. Its potential as a high-speed, scalable process has seen an increasing range of new products emerging that employ this cost-effective technology, including solar energy products that are moving from rigid panels onto cheaper and more versatile flexible substrates, flexible electronic circuit 'boards', and flexible displays. In this third edition, all chapters are thoroughly revised with a significant amount of new information added, including newly developed barrier measurement techniques, improved in-vacuum monitoring technologies, and the latest developments in Atomic Layer Deposition (ALD). Provides the know-how to maximize productivity of vacuum coating systems Thoroughly revised with a significant amount of new information added, including newly developed barrier measurement techniques, improved in-vacuum monitoring technologies, and the latest on Atomic Layer Deposition (ALD) Presents the latest information on vacuum deposition, the technology that applies an even coating to a flexible material that can be held on a roll, thereby offering a much faster and cheaper method of bulk coating Enables engineers to specify systems more effectively and enhances dialogue between non-specialists and suppliers/engineers Empowers those in rapidly expanding fields such as solar energy, display panels, and flexible electronics to unlock the

potential of vacuum coating to transform their processes and products

NASA Historical Data Book - 1988

Digital Media Steganography - Mahmoud Hassaballah 2020-06-27

The common use of the Internet and cloud services in transmission of large amounts of data over open networks and insecure channels, exposes that private and secret data to serious situations. Ensuring the information transmission over the Internet is safe and secure has become crucial, consequently information security has become one of the most important issues of human communities because of increased data transmission over social networks.

Digital Media Steganography: Principles, Algorithms, and Advances covers fundamental theories and algorithms for practical design, while providing a comprehensive overview of the most advanced methodologies and modern techniques in the field of steganography. The topics covered present a collection of high-quality research works written in a simple manner by world-renowned leaders in the field dealing with specific research problems. It presents the state-of-the-art as well as the most recent trends in digital media steganography. Covers fundamental theories and algorithms for practical design which form the basis of modern digital media steganography Provides new theoretical breakthroughs and a number of modern techniques in steganography Presents the latest advances in digital media steganography such as using deep learning and artificial neural network as well as Quantum Steganography

Inorganometallic Chemistry - Thomas P. Fehlner 2013-11-22

There is a certain fascination

associated with words. The manipulation of strings of symbols according to mutually accepted rules allows a language to express history as well as to formulate challenges for the future. But language changes as old words are used in a new context and new words are created to describe changing situations. How many words has the computer revolution alone added to languages? "Inorganometallic" is a word you probably have never encountered before. It is one created from old words to express a new presence. A strange sounding word, it is also a term fraught with internal contradiction caused by the accepted meanings of its constituent parts. "Inorganic" is the name of a discipline of chemistry while "metallic" refers to a set of elements constituting a subsection of that discipline. Why then this Carrollian approach to entitling a set of serious academic papers? Organic, the acknowledged doyenne of chemistry, is distinguished from her brother, inorganic, by the prefix "in," i. e. , he gets everything not organic. Organometallic refers to compounds with carbon-metal bonds. It is simple! Inorganometallic is everything else, i. e. , compounds with noncarbon-metal element bonds. But why a new term? Is not inorganic sufficient? By virtue of training, limited time, resources, co-workers, and so on, chemists tend to work on a specific element class, on a particular compound type, or in a particular phase. Thus, one finds element-oriented chemists (e. g. *International Advances in the Ecology, Zoogeography, and Systematics of Mayflies and Stoneflies* - F. R. Hauer 2008-06-24 The purpose of this volume is to encourage and facilitate focused research and provide a forum for scholarly exchange about the status

of Mayfly and Stonefly science. Professor John Brittain, whose research is focused on freshwater entomology, especially egg development and life cycle strategies of Ephemeroptera and Plecoptera, presents a chapter reflecting on the quality of mayflies as good indicators of global warming and the quality of streams and lakes. Professor Emeritus Andrew Sheldon, whose interests have encompassed community and population ecology of aquatic animals over a span of more than 40 years, especially insects and fishes, explores topics of Scale and Hierarchy and the Ecology of Plecoptera, discussing how studies emphasizing scale and perspective reveal importance of stoneflies to ecosystems. Other topics cover a broad base of disciplines including morphology, physiology, phylogeny, taxonomy, ecology and conservation. The chapters have been compiled into three sections for this volume: Ecology, Zoogeography and Systematics. Cellular Physiology and Neurophysiology E-Book - Mordecai P. Blaustein 2011-12-14 Gain a quick and easy understanding of this complex subject with the 2nd edition of Cellular Physiology and Neurophysiology by doctors Mordecai P. Blaustein, Joseph PY Kao, and Donald R. Matteson. The expanded and thoroughly updated content in this Mosby Physiology Monograph Series title bridges the gap between basic biochemistry, molecular and cell biology, neuroscience, and organ and systems physiology, providing the rich, clinically oriented coverage you need to master the latest concepts in neuroscience. See how cells function in health and disease with extensive discussion of cell membranes, action potentials, membrane proteins/transporters, osmosis, and more. Intuitive and

user-friendly, this title is a highly effective way to learn cellular physiology and neurophysiology. Focus on the clinical implications of the material with frequent examples from systems physiology, pharmacology, and pathophysiology. Gain a solid grasp of transport processes—which are integral to all physiological processes, yet are neglected in many other cell biology texts. Understand therapeutic interventions and get an updated grasp of the field with information on recently discovered molecular mechanisms. Conveniently explore mathematical derivations with special boxes throughout the text. Test your knowledge of the material with an appendix of multiple-choice review questions, complete with correct answers. Understand the latest concepts in neurophysiology with a completely new section on Synaptic Physiology. Learn all of the newest cellular physiology knowledge with sweeping updates throughout. Reference key abbreviations, symbols, and numerical constants at a glance with new appendices.

The World of UCL - Negley Harte
2018-05-21

From its foundation in 1826, UCL embraced a progressive and pioneering spirit. It was the first university in England to admit students regardless of religion and made higher education affordable and accessible to a much broader section of society. It was also effectively the first university to welcome women on equal terms with men. From the outset UCL showed a commitment to innovative ideas and new methods of teaching and research. This book charts the history of UCL from 1826 through to the present day, highlighting its many contributions to society in Britain and around the world. It covers the expansion of the university through the growth in student numbers and institutional

mergers. It documents shifts in governance throughout the years and the changing social and economic context in which UCL operated, including challenging periods of reconstruction after two World Wars. Today UCL is one of the powerhouses of research and teaching, and a truly global university. It is currently seventh in the QS World University Rankings. This completely revised and updated edition features a new chapter based on interviews with key individuals at UCL. It comes at a time of ambitious development for UCL with the establishment of an entirely new campus in East London, UCL East, and Provost Michael Arthur's 'UCL 2034' strategy which aims to secure the university's long-term future and commits UCL to delivering global impact.

Cultural Evolution - Gary M. Feinman
2000-06-30

Drawing on Kent Flannery's forty years of cross-cultural research in the area, the contributors to this collection reflect the current diversity of contemporary approaches to the study of cultural evolutionary processes. Collectively the volume expresses the richness of the issues being investigated by comparative theorists interested in long-term change, as well as the wide variety of data, approaches, and ideas that researchers are employing to examine these questions.

Indian Diaspora in the United States
- Anjali Sahay 2009-05-16

Indian Diaspora in the United States takes a new perspective on the topic of brain drain, departing from the traditional literature to include discussions on brain gain and brain circulation using Indian migration to the United States as a case study. Sahay acknowledges that host country policies create the necessary conditions for brain drain to take place, but argues that source

countries may also benefit from out-migration of their workers and students. These benefits are measured as remittances, investments, and savings associated with return, and social networking that links expatriates with their country of origin. Through success and visibility in host societies, diaspora workers further influence economic and political benefits for their home countries. This type of brain gain becomes an element of soft power for the source country in the long term. *Indian Diaspora in the United States* is a ground-breaking work that intersects economic and political issues to the dimension of migration and the concerns over brain drain. With its rigorous, connectionist approach, this book is a valuable contribution to the fields of diaspora, labor, globalization, and Indian studies.

International Commercial Contracts -

Giuditta Cordero-Moss 2014-05-29

Any practising lawyer and student working with international commercial contracts faces standardised contracts and international arbitration as mechanisms for dispute settlement. Transnational rules may be applicable, but national law is still important. Based on extensive practical experience, this book analyses international contract practice and its interaction with the various applicable sources: which role is played by the contractual regulation, which by national law, which by transnational sources, what is the interaction among these factors, and how does this all apply to contracts that refer disputes to international arbitration?

Geomagnetism, Aeronomy and Space

Weather - Mioara Manda 2019-11-14

An interdisciplinary review of research in geomagnetism, aeronomy and space weather, written by eminent researchers from these fields.

To Measure the Sky - Frederick R.

Chromey 2010-05-27

With a lively yet rigorous and quantitative approach, this textbook introduces the fundamental topics in optical observational astronomy for undergraduates. It explains the theoretical foundations for observational practices and reviews essential physics to support students' mastery of the subject. Student understanding is strengthened through over 120 exercises and problems.

Indoor Air Quality Engineering -

Robert Jennings Heinsohn 2003-01-15

Written by experts, *Indoor Air Quality Engineering* offers practical strategies to construct, test, modify, and renovate industrial structures and processes to minimize and inhibit contaminant formation, distribution, and accumulation. The authors analyze the chemical and physical phenomena affecting contaminant generation to optimize system function and design, improve human health and safety, and reduce odors, fumes, particles, gases, and toxins within a variety of interior environments. The book includes applications in Microsoft Excel®, Mathcad®, and Fluent® for analysis of contaminant concentration in various flow fields and air pollution control devices.

Saturn from Cassini-Huygens - Michele

Dougherty 2009-09-30

This book is one of two volumes meant to capture, to the extent practical, the scientific legacy of the Cassini-Huygens prime mission, a landmark in the history of planetary exploration. As the most ambitious and interdisciplinary planetary exploration mission to date, it has extended our knowledge of the Saturn system to levels of detail at least an order of magnitude beyond that gained from all previous missions to Saturn. Nestled in the

brilliant light of the new and deep understanding of the Saturn planetary system is the shiny nugget that is the spectacularly successful collaboration of individuals, organizations and governments in the achievement of Cassini-Huygens. In some ways the partnerships formed and lessons learned may be the most enduring legacy of Cassini-Huygens. The broad, international coalition that is Cassini-Huygens is now conducting the Cassini Equinox Mission and planning the Cassini Solstice Mission, and in a major expansion of those fruitful efforts, has extended the collaboration to the study of new flagship missions to both Jupiter and Saturn. Such ventures have and will continue to enrich us all, and evoke a very optimistic vision of the future of international collaboration in planetary exploration. The two volumes in the series Saturn from Cassini-Huygens and Titan from Cassini-Huygens are the direct products of the efforts of over 200 authors and co-authors. Though each book has a different set of three editors, the group of six editors for the two volumes has worked together through every step of the process to ensure that these two volumes are a set.

Dignity Therapy - Harvey Max Chochinov 2012-01-04

Maintaining dignity for patients approaching death is a core principle of palliative care. Dignity therapy, a psychological intervention developed by Dr. Harvey Max Chochinov and his internationally lauded research group, has been designed specifically to address many of the psychological, existential, and spiritual challenges that patients and their families face as they grapple with the reality of life drawing to a close. In the first book to lay out the blueprint for this unique and meaningful intervention,

Chochinov addresses one of the most important dimensions of being human. Being alive means being vulnerable and mortal; he argues that dignity therapy offers a way to preserve meaning and hope for patients approaching death. With history and foundations of dignity in care, and step by step guidance for readers interested in implementing the program, this volume illuminates how dignity therapy can change end-of-life experience for those about to die - and for those who will grieve their passing.

International Handbook of Migration and Population Distribution - Michael J. White 2015-12-11

This Handbook offers a comprehensive collection of essays that cover essential features of geographical mobility, from internal migration, to international migration, to urbanization, to the adaptation of migrants in their destinations. Part I of the collection introduces the range of theoretical perspectives offered by several social science disciplines, while also examining the crucial relationship between internal and international migration. Part II takes up methods, ranging from how migration data are best collected to contemporary techniques for analyzing such data. Part III of the handbook contains summaries of present trends across all world regions. Part IV rounds out the volume with several contributions assessing pressing issues in contemporary policy areas. The volume's editor Michael J. White has spent a career studying the pattern and process of internal and international migration, urbanization and population distribution in a wide variety of settings, from developing societies to advanced economies. In this Handbook he brings together contributors from all parts of the world, gathering in this one volume both geographical and substantive

expertise of the first rank. The Handbook will be a key reference source for established scholars, as well as an invaluable high-level introduction to the most relevant topics in the field for emerging scholars.

Practical Database Programming with Visual Basic.NET - Ying Bai

2012-05-09

Practical Database Programming with Visual Basic.NET The most up-to-date Visual Basic.NET programming textbook—covering both fundamentals and advanced-level programming techniques—complete with examples and solutions Visual Basic.NET (VB.NET) is an object-oriented computer programming language that can be viewed as an evolution of the classic Visual Basic (VB), which is implemented on the .NET Framework. Microsoft currently supplies two major implementations of Visual Basic: Microsoft Visual Studio (which is commercial software) and Microsoft Visual Studio Express (which is free of charge). Forgoing the large amounts of programming codes found in most database programming books, *Practical Database Programming with Visual Basic.NET* shows students and professionals both how to develop professional and practical database programs in a Visual Basic.NET environment by using Visual Studio.NET Data Tools and Wizards related to ADO.NET 4.0, and how to apply codes that are auto-generated by solely using Wizards. The fully updated Second Edition: Covers both fundamentals and advanced database programming techniques Introduces three popular database systems with practical examples including MS Access, SQL Server 2008, and Oracle Features more than fifty sample projects with detailed illustrations and explanations to help students understand key techniques and programming technologies Includes

downloadable programming codes and exercise questions This book provides undergraduate and graduate students as well as database programmers and software engineers with the necessary tools to handle the database programming issues in the Visual Studio.NET environment.

Minorities in Higher Education -

Manuel J. Justiz 1994

This volume contains 22 essays which aim to provide analysis, insight and information on such topics as: minority grants and fellowships; equity in higher education; financial aid strategies for improving minority student participation; and minorities and the new technologies.

Mineral Dust - Peter Knippertz

2014-09-01

This volume presents state-of-the-art research about mineral dust, including results from field campaigns, satellite observations, laboratory studies, computer modelling and theoretical studies. Dust research is a new, dynamic and fast-growing area of science and due to its multiple roles in the Earth system, dust has become a fascinating topic for many scientific disciplines. Aspects of dust research covered in this book reach from timescales of minutes (as with dust devils, cloud processes and radiation) to millennia (as with loess formation and oceanic sediments), making dust both a player and recorder of environmental change. The book is structured in four main parts that explore characteristics of dust, the global dust cycle, impacts of dust on the Earth system, and dust as a climate indicator. The chapters in these parts provide a comprehensive, detailed overview of this highly interdisciplinary subject. The contributions presented here cover dust from source to sink and describe all the processes dust particles undergo while travelling

through the atmosphere. Chapters explore how dust is lifted and transported, how it affects radiation, clouds, regional circulations, precipitation and chemical processes in the atmosphere and how it deteriorates air quality. The book explores how dust is removed from the atmosphere by gravitational settling, turbulence or precipitation, how iron contained in dust fertilizes terrestrial and marine ecosystems, and about the role that dust plays in human health. We learn how dust is observed, simulated using computer models and forecast. The book also details the role of dust deposits for climate reconstructions. Scientific observations and results are presented, along with numerous illustrations. This work has an interdisciplinary appeal and will engage scholars in geology, geography, chemistry, meteorology and physics, amongst others with an interest in the Earth system and environmental change. body>

Publishers' International ISBN Directory - 1995

Sweeteners and Sugar Alternatives in Food Technology - Kay O'Donnell
2012-07-13

This book provides a comprehensive and accessible source of information on all types of sweeteners and functional ingredients, enabling manufacturers to produce low sugar versions of all types of foods that not only taste and perform as well as sugar-based products, but also offer consumer benefits such as calorie reduction, dental health benefits, digestive health benefits and improvements in long term disease risk through strategies such as dietary glycaemic control. Now in a revised and updated new edition which contains seven new chapters, part I of this volume addresses relevant

digestive and dental health issues as well as nutritional considerations. Part II covers non-nutritive, high-potency sweeteners and, in addition to established sweeteners, includes information to meet the growing interest in naturally occurring sweeteners. Part III deals with the bulk sweeteners which have now been used in foods for over 20 years and are well established both in food products and in the minds of consumers. In addition to the "traditional" polyol bulk sweeteners, newer products such as isomaltulose are discussed. These are seen to offer many of the advantages of polyols (for example regarding dental health and low glycaemic response) without the laxative side effects if consumed in large quantity. Part IV provides information on the sweeteners which do not fit into the above groups but which nevertheless may offer interesting sweetening opportunities to the product developer. Finally, Part V examines bulking agents and multifunctional ingredients which can be beneficially used in combination with all types of sweeteners and sugars.

Polymer Colloids - Rodney Priestley
2019-12-02

Academic and industrial research around polymer-based colloids is huge, driven both by the development of mature technologies, e.g. latexes for coatings, as well as the advancement of new materials and applications, such as building blocks for 2D/3D structures and medicine. Edited by two world-renowned leaders in polymer science and engineering, this is a fundamental text for the field. Based on a specialised course by the editors, this book provides the reader with an invaluable single source of reference. The first section describes formation, explaining basic properties of

emulsions and dispersion polymerization, microfluidic approaches to produce polymer-based colloids and formation via directed self-assembly. The next section details characterisation methodologies from microscopy and small angle scattering, to surface science and simulations. The final chapters close with applications, including Pickering emulsions and molecular engineering for materials development. A comprehensive guide to polymer colloids, with contributions by leaders in their respective areas, this book is a must-have for researchers and practitioners working across polymers, soft matter and chemical and molecular engineering.

Thermophysical Properties of Materials for Nuclear Engineering - International Atomic Energy Agency 2009-02-01

A resource for reactor physicists and engineers and students of nuclear power engineering, this publication provides a comprehensive summary of the thermophysical properties data needed in nuclear power engineering. It includes data for nuclear fuels (metallic and ceramic), coolants (gases, light water, heavy water and liquid metals), moderators, absorbers and structural materials. The correlations and equations provided allow for the estimation of all important thermodynamic and transport properties. The detailed material properties of both solid and liquid states are shown in tabular form. The data on thermophysical properties of saturated vapours of some metals are also given.

Nanotechnologies for Future Mobile Devices - Tapani Ryhänen 2010-02-11

Explore the potential for nanotechnologies to transform future mobile and Internet communications. Based on a research collaboration between Nokia, Helsinki University of Technology, and the University of

Cambridge, here leading researchers review the current state-of-the art and future prospects for:

- Novel multifunctional materials, dirt repellent, self-healing surface materials, and lightweight structural materials capable of adapting their shape
- Portable energy storage using supercapacitor-battery hybrids based on new materials including carbon nanohorns and porous electrodes, fuel cell technologies, energy harvesting and more efficient solar cells
- Electronics and computing advances reaching beyond IC scaling limits, new computing approaches and architectures, embedded intelligence and future memory technologies.
- Nanoscale transducers for mechanical, optical and chemical sensing, sensor signal processing, and nanoscale actuation
- Nanoelectronics to create ultrafast and adaptive electronics for future radio technologies
- Flat panel displays with greater robustness, improved resolution, brightness and contrast, and mechanical flexibility
- Manufacturing and innovation processes, plus commercialization of nanotechnologies.

COVID-19 in the Global South - Carmody, Pádraig 2020-10-21

Available Open Access under CC-BY-NC-ND licence. Bringing together a range of experts across various sectors, this important volume explores some of the key issues that have arisen in the Global South with the COVID-19 pandemic. Situating the worldwide health crisis within broader processes of globalisation, the book investigates implications for development and gender, as well as the effects on migration, climate change and economic inequality. Contributors consider how widespread and long-lasting responses to the pandemic should be, while paying particular attention to the accentuated risks faced by vulnerable

populations. Providing answers that will be essential to development practitioners and policy makers, the book offers vital insights into how the impact of COVID-19 can be mitigated in some of the most challenging socio-economic contexts worldwide.

Aerosol Science - Ian Colbeck
2014-01-30

Aerosols influence many areas of our daily life. They are at the core of environmental problems such as global warming, photochemical smog and poor air quality. They can also have diverse effects on human health, where exposure occurs in both outdoor and indoor environments. However, aerosols can have beneficial effects too; the delivery of drugs to the lungs, the delivery of fuels for combustion and the production of nanomaterials all rely on aerosols. Advances in particle measurement technologies have made it possible to

take advantage of rapid changes in both particle size and concentration. Likewise, aerosols can now be produced in a controlled fashion. Reviewing many technological applications together with the current scientific status of aerosol modelling and measurements, this book includes:

- Satellite aerosol remote sensing
- The effects of aerosols on climate change
- Air pollution and health
- Pharmaceutical aerosols and pulmonary drug delivery
- Bioaerosols and hospital infections
- Particle emissions from vehicles
- The safety of emerging nanomaterials
- Radioactive aerosols: tracers of atmospheric processes

With the importance of this topic brought to the public's attention after the eruption of the Icelandic volcano Eyjafjallajökull, this book provides a timely, concise and accessible overview of the many facets of aerosol science.