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The Atmosphere over Mountainous

Regions Miguel A. C. Teixeira
2016-11-09 Mountainous regions occupy a significant fraction of the Earth's continents and are characterized by specific meteorological phenomena operating on a wide range of scales. Being a home to large human populations, the impact of mountains on weather and hydrology has significant practical consequences. Mountains modulate the climate and create micro-climates, induce different types of thermally and dynamically driven circulations, generate atmospheric waves of various scales (known as mountain waves), and affect the boundary layer characteristics and the dispersion of pollutants. At the local scale, strong downslope winds linked with mountain waves (such as the Foehn and Bora) can cause severe damage.

Mountain wave breaking in the high atmosphere is a source of Clear Air Turbulence, and lee wave rotors are a major near-surface aviation hazard. Mountains also act to block strongly stratified air layers, leading to the formation of valley cold air-pools (with implications for road safety, pollution, crop damage, etc.) and gap flows. Presently, neither the fine-scale structure of orographic precipitation nor the initiation of deep convection by mountainous terrain can be resolved adequately by regional-to global-scale models, requiring appropriate downscaling or parameterization. Additionally, the shortest mountain waves need to be parameterized in global weather and climate prediction models, because they exert a drag on the atmosphere. This drag not only decelerates the

global atmospheric circulation, but also affects temperatures in the polar stratosphere, which control ozone depletion. It is likely that both mountain wave drag and orographic precipitation lead to non-trivial feedbacks in climate change scenarios. Measurement campaigns such as MAP, T-REX, Materhorn, COLPEX and i-Box provided a wealth of mountain meteorology field data, which is only starting to be explored. Recent advances in computing power allow numerical simulations of unprecedented resolution, e.g. LES modelling of rotors, mountain wave turbulence, and boundary layers in mountainous regions. This will lead to important advances in understanding these phenomena, as well as mixing and pollutant dispersion over complex terrain, or

the onset and breakdown of cold air pools. On the other hand, recent analyses of global circulation biases point towards missing drag, especially in the southern hemisphere, which may be due to processes currently neglected in parameterizations. A better understanding of flow over orography is also crucial for a better management of wind power and a more effective use of data assimilation over complex terrain. This Research Topic includes contributions that aim to shed light on a number of these issues, using theory, numerical modelling, field measurements, and laboratory experiments.

Metallurgical Design and Industry

Brett Kaufman 2018-11-19 □ This edited volume examines metallurgical technologies and their place in

society throughout the centuries. The authors discuss metal alloys and the use of raw mineral resources as well as fabrication of engineered alloys for a variety of applications. The applications covered in depth include financial, mining and smelting, bridges, armor, aircraft, and power generation. The authors detail the multiple levels and scales of impact that metallurgical advances have had and continue to have on society. They include case studies with guidance for future research design and innovation of metallic materials relevant to societal needs. Includes case studies written by industry professionals with guidance for future research design and innovation; Demonstrates metal materials design that reflects relevant societal needs; Covers a

broad range of applied materials used in aircraft, armor, bridges, and power generation, among others.

Bulk Metallic Glasses C.

Suryanarayana 2017-11-22 Reflecting the fast pace of research in the field, the Second Edition of Bulk Metallic Glasses has been thoroughly updated and remains essential reading on the subject. It incorporates major advances in glass forming ability, corrosion behavior, and mechanical properties. Several of the newly proposed criteria to predict the glass-forming ability of alloys have been discussed. All other areas covered in this book have been updated, with special emphasis on topics where significant advances have occurred. These include processing of hierarchical surface structures and synthesis of nanophase

composites using the chemical behavior of bulk metallic glasses and the development of novel bulk metallic glasses with high-strength and high-ductility and superelastic behavior. New topics such as high-entropy bulk metallic glasses, nanoporous alloys, novel nanocrystalline alloys, and soft magnetic glassy alloys with high saturation magnetization have also been discussed. Novel applications, such as metallic glassy screw bolts, surface coatings, hyperthermia glasses, ultra-thin mirrors and pressure sensors, mobile phone casing, and degradable biomedical materials, are described. Authored by the world's foremost experts on bulk metallic glasses, this new edition endures as an indispensable reference and continues to be a one-stop

resource on all aspects of bulk metallic glasses.

The Science of Armour Materials Ian Crouch 2016-09-21 The Science of Armour Materials comprehensively covers the range of armor materials from steels and light alloys, through glasses and ceramics, to fibers, textiles, and protective apparel. The book also discusses aspects of analytical and numerical modeling, as well as laboratory-based high-strain rate testing and ballistic testing methodologies. Each chapter is written from an international perspective, including reviews of the current global literature, and incorporates case studies that focus upon real life applications, research outcomes, and lessons learned. The threat spectrum is restricted to small arms ammunition, high velocity

fragments, and stab and spike attacks, as well as blast loadings. Features input from an editor who is an expert in his field: Dr. Ian Crouch, the author of over 80 publications in his field, with three patents to his name Provides systematic and comprehensive coverage of armor materials, modeling, and testing Offers a cross-disciplinary approach that brings together expertise in materials science and defense engineering Discusses aspects of analytical and numerical modeling, as well as laboratory-based high-strain rate testing and ballistic testing methodologies

Infrasound Monitoring for Atmospheric Studies Alexis Le Pichon 2010-01-19

The use of infrasound to monitor the atmosphere has, like infrasound itself, gone largely unheard of

through the years. But it has many applications, and it is about time that a book is being devoted to this fascinating subject. Our own involvement with infrasound occurred as graduate students of Prof. William Donn, who had established an infrasound array at the Lamont-Doherty Geological Observatory (now the Lamont-Doherty Earth Observatory) of Columbia University. It was a natural outgrowth of another major activity at Lamont, using seismic waves to explore the Earth's interior. Both the atmosphere and the solid Earth feature velocity (seismic or acoustic) gradients in the vertical which act to refract the respective waves. The refraction in turn allows one to calculate the respective background structure in these mediums, indirectly exploring

locations that are hard to observe otherwise. Monitoring these signals also allows one to discover various phenomena, both natural and man-made (some of which have military applications).

Plant Stress Tolerance Ramanjulu Sunkar 2010-05-14 Written by leading researchers, this book provides an easily accessible reference for plant stress tolerance. Comprehensive and up-to-date, it provides a wide range of easy-to-follow protocols catering to the needs of those probing this vital area of study.

Frontiers of Rock Mechanics and Sustainable Development in the 21st Century Wang Sijing 2020-12-17 These proceedings contain the scientific contributions presented at the 2nd Asian Rock Mechanics Symposium (ISRM 2001 - 2nd ARMS). The theme of the

symposium was "Frontiers of Rock Mechanics and Sustainable Development in the 21st Century".

Essentials of Computational Chemistry

Christopher J. Cramer 2013-04-29 Essentials of Computational Chemistry provides a balanced introduction to this dynamic subject. Suitable for both experimentalists and theorists, a wide range of samples and applications are included drawn from all key areas. The book carefully leads the reader thorough the necessary equations providing information explanations and reasoning where necessary and firmly placing each equation in context.

Nanomechanics Alexander Vakhrushev 2017-05-24 In recent years, nanotechnology is the basis for the development of modern production. This determined the urgency of the

intensive development of the new direction of mechanics and nanomechanics, for the scientific description of nanotechnological processes and the solution of several topical nanotechnology problems. Topics included in the book cover a wide range of research in the field of nanomechanics: thermomass theory of nanosystems; deformation of nanomaterials; interface mechanics of assembly carbon nanotube; nanomechanics on surface; molecular interactions and transformations; nanomechanical sensors, nanobeams, and micromembranes; nanostructural organic and inorganic materials; green synthesis of metallic nanoparticles. The main goal of these works is the establishment of the nanosystem macroparameter dependence on its nanoparameters using

nanomechanics. This book will be useful for engineers, technologists, and researchers interested in methods of nanomechanics and in advanced nanomaterials with complex behavior and their applications.

Applied Structural Geology of Ore-forming Hydrothermal Systems Julie V. Rowland 2020

The First Galaxies in the Universe Abraham Loeb 2013 This book provides a comprehensive, self-contained introduction to one of the most exciting frontiers in astrophysics today: the quest to understand how the oldest and most distant galaxies in our universe first formed. Until now, most research on this question has been theoretical, but the next few years will bring about a new generation of large telescopes that promise to supply a flood of data

about the infant universe during its first billion years after the big bang. This book bridges the gap between theory and observation. It is an invaluable reference for students and researchers on early galaxies. *The First Galaxies in the Universe* starts from basic physical principles before moving on to more advanced material. Topics include the gravitational growth of structure, the intergalactic medium, the formation and evolution of the first stars and black holes, feedback and galaxy evolution, reionization, 21-cm cosmology, and more. Provides a comprehensive introduction to this exciting frontier in astrophysics Begins from first principles Covers advanced topics such as the first stars and 21-cm cosmology Prepares students for research using the next

generation of large telescopes Discusses many open questions to be explored in the coming decade *Mathematical Foundations of Elasticity* Jerrold E. Marsden 2012-10-25 Graduate-level study approaches mathematical foundations of three-dimensional elasticity using modern differential geometry and functional analysis. It presents a classical subject in a modern setting, with examples of newer mathematical contributions. 1983 edition.

Assembly Michael Hardt 2017-08-01 In recent years "leaderless" social movements have proliferated around the globe, from North Africa and the Middle East to Europe, the Americas, and East Asia. Some of these movements have led to impressive gains: the toppling of authoritarian

leaders, the furthering of progressive policy, and checks on repressive state forces. They have also been, at times, derided by journalists and political analysts as disorganized and ineffectual, or suppressed by disoriented and perplexed police forces and governments who fail to effectively engage them. Activists, too, struggle to harness the potential of these horizontal movements. Why have the movements, which address the needs and desires of so many, not been able to achieve lasting change and create a new, more democratic and just society? Some people assume that if only social movements could find new leaders they would return to their earlier glory. Where, they ask, are the new Martin Luther Kings, Rudi Dutschkes, and Stephen Bikos? With

the rise of right-wing political parties in many countries, the question of how to organize democratically and effectively has become increasingly urgent. Although today's leaderless political organizations are not sufficient, a return to traditional, centralized forms of political leadership is neither desirable nor possible. Instead, as Michael Hardt and Antonio Negri argue, familiar roles must be reversed: leaders should be responsible for short-term, tactical action, but it is the multitude that must drive strategy. In other words, if these new social movements are to achieve meaningful revolution, they must invent effective modes of assembly and decision-making structures that rely on the broadest democratic base. Drawing on ideas

developed through their well-known Empire trilogy, Hardt and Negri have produced, in *Assembly*, a timely proposal for how current large-scale horizontal movements can develop the capacities for political strategy and decision-making to effect lasting and democratic change. We have not yet seen what is possible when the multitude assembles.

Mechanical Behavior of Materials Marc André Meyers 2008-11-06 A balanced mechanics-materials approach and coverage of the latest developments in biomaterials and electronic materials, the new edition of this popular text is the most thorough and modern book available for upper-level undergraduate courses on the mechanical behavior of materials. To ensure that the student gains a thorough understanding the authors

present the fundamental mechanisms that operate at micro- and nano-meter level across a wide-range of materials, in a way that is mathematically simple and requires no extensive knowledge of materials. This integrated approach provides a conceptual presentation that shows how the microstructure of a material controls its mechanical behavior, and this is reinforced through extensive use of micrographs and illustrations. New worked examples and exercises help the student test their understanding. Further resources for this title, including lecture slides of select illustrations and solutions for exercises, are available online at www.cambridge.org/97800521866758. **Frontiers of High Pressure Research** Organización del Tratado del Atlántico Norte. Advanced Research

Workshop on Frontiers of High-Pressure Research (1991 Proceedings of a NATO ARW held in Fort Collins, Colorado, July 15-18, 1991

Metal Forming and the Finite-Element Method the late Shiro Kobayashi 1989-03-09 The application of computer-aided design and manufacturing techniques is becoming essential in modern metal-forming technology. Thus process modeling for the determination of deformation mechanics has been a major concern in research . In light of these developments, the finite element method--a technique by which an object is decomposed into pieces and treated as isolated, interacting sections--has steadily assumed increased importance. This volume addresses advances in modern metal-forming technology, computer-aided

design and engineering, and the finite element method.

Elsevier's Dictionary of Geography

Vladimir Kotlyakov 2006-12-20

Geography is a system of highly developed sciences about the environment. Geographical science embracing the study of the Earth's physical phenomena, people and their economic activities has always been in need of an extensive terminology. Geographical terms are related to the terms of natural sciences (physics, chemistry, biology, geology, etc.) and humanities (history, economics, sociology, etc.) since geography is based on these fundamental subjects. Geography includes a number of disciplines and subdivisions which appeared along with the development of the science In spite of being very different geographical disciplines

have some common tools of investigation which is maps, comparative method of exploration, remote sensing, geoinformation systems. Today very well developed terminologies of all the specialist fields of geography and related subjects exist in the main world languages. However, they are not always well-correlated. Nowadays geographical terminology requires unification and international correlation more than ever before. Hence the idea of compiling a multilingual polydisciplinary dictionary. The Dictionary consists of the basic table of terms arranged according to the order of the English alphabet with each term numbered. Each entry consists of the term in English and its equivalents in Russian, French, German, Spanish.

Short definitions of terms are given in English and in Russian. The terms are supplied with the necessary grammar labels, such as gender of nouns, plural number, etc. The Dictionary combines two functions: that of a defining dictionary and that of a bilingual dictionary. These two functions are basically contradictory because usually the defining dictionary is aimed at giving one meaning of the word which is the main and essential one, while the bilingual dictionary tries to give different equivalents of a given word in the other language in order to supply the user with maximum possible translations, differing in the shades of meanings, thus giving him the possibility to choose the appropriate word. But in our Dictionary we intentionally decided

to combine the two functions – defining and multilingual, because a short definition of the term and equivalents in other languages help to achieve our main aim which consists in showing the basic geographical terminology and harmonizing it in several languages. Having this into consideration we deliberately mixed two types of dictionaries in one. Organized alphabetically via English Provides short definition of geographical terms in English and Russian Includes multilingual translation of terms from English to Russian, French, German, Spanish
Adiabatic Shear Localization Yilong Bai 1992-01-01 Adiabatic shear localization is a mode of failure that occurs in dynamic loading. It is characterized by thermal softening

occurring over a very narrow region of a material and is usually a precursor to ductile fracture and catastrophic failure. This reference source is the first detailed study of the mechanics and modes of adiabatic shear localization in solids, and provides a systematic description of a number of aspects of adiabatic shear banding. The inclusion of the appendices which provide a quick reference section and a comprehensive collection of thermomechanical data allows rapid access and understanding of the subject and its phenomena. The concepts and techniques described in this work can usefully be applied to solve a multitude of problems encountered by those investigating fracture and damage in materials, impact dynamics, metal working and other areas. This reference book has

come about in response to the pressing demand of mechanical and metallurgical engineers for a high quality summary of the knowledge gained over the last twenty years. While fulfilling this requirement, the book is also of great interest to academics and researchers into materials performance.

Forthcoming Books Rose Army 1993-04
TMS 2018 147th Annual Meeting & Exhibition Supplemental Proceedings

The Minerals, Metals & Materials Society 2018-02-03 This collection features papers presented at the 147th Annual Meeting & Exhibition of The Minerals, Metals & Materials Society.

Adiabatic Shear Localization Bradley Dodd 2012-05-22 Adiabatic shear localization is a mode of failure that occurs in dynamic loading. It is

characterized by thermal softening occurring over a very narrow region of a material and is usually a precursor to ductile fracture and catastrophic failure. This reference source is the revised and updated version of the first detailed study of the mechanics and modes of adiabatic shear localization in solids. Building on the success of the first edition, the book provides a systematic description of a number of aspects of adiabatic shear banding. The concepts and techniques described in this work can usefully be applied to solve a multitude of problems encountered by those investigating fracture and damage in materials, impact dynamics, metal working and other areas. Specific chapters focus on energetic materials, polymers, bulk metal

glasses, and the mathematics of shear banding as well as the numerical modeling of them. With its detailed coverage of the subject, this book is of great interest to academics and researchers into materials performance as well as professionals. Up-to-date coverage of the subject and research that has occurred over the past 20 years Each chapter is written on a different sub-field of adiabatic shear by an acknowledged expert in the field Detailed and clear discussions of each aspect *Dynamic Behavior of Materials* Marc A. Meyers 1994-10-28 Addresses fundamentals and advanced topics relevant to the behavior of materials under in-service conditions such as impact, shock, stress and high-strain rate deformations. Deals extensively with materials from a microstructure

perspective which is the future direction of research today. High Pressure Rheology for Quantitative Elastohydrodynamics Scott S. Bair 2019-04-18 High-Pressure Rheology for Quantitative Elastohydrodynamics, Second Edition, contains updated sections on scaling laws and thermal effects, including new sections on the importance of the pressure dependence of viscosity, the role of the localization limit of stress, and new material on the shear dependence of viscosity and temperature dependence viscosity. Since publication of the original edition, the experimental methods, the resulting property data and new correlations have resulted in a revolution in understanding of the mechanisms of film formation and the mechanical dissipation. Describes

lubricant rheology and dependence of lubricant viscosity and density on pressure and temperature Provides a detailed description of the relationship of lubricant properties on pressure, temperature and shear stress Includes data for many more liquids, including the recently characterized reference liquids *Polarons* David Emin 2013 A distinctive introduction to the principles governing polaron science for experimental and theoretical graduate students and researchers. Dynamics of Materials Lili Wang 2019-07-25 Dynamics of Materials: Experiments, Models and Applications addresses the basic laws of high velocity flow/deformation and dynamic failure of materials under dynamic loading. The book comprehensively covers different perspectives on

volumetric law, including its macro-thermodynamic basis, solid physics basis, related dynamic experimental study, distortional law, including the rate-dependent macro-distortional law reflecting strain-rate effect, its micro-mechanism based on dislocation dynamics, and dynamic experimental research based on the stress wave theory. The final section covers dynamic failure in relation to dynamic damage evolution, including the unloading failure of a crack-free body, dynamics of cracks under high strain-rate, and more. Covers models for applications, along with the fundamentals of the mechanisms behind the models Tackles the difficult interdisciplinary nature of the subject, combining macroscopic continuum mechanics with thermodynamics and macro-mechanics

expression with micro-physical mechanisms Provides a review of the latest experimental methods for the equation of state for solids under high pressure and the distortional law under high strain-rates of materials

New trends for innovation in the Mediterranean animal production R. Bouche 2012-03-26 The Mediterranean area shows a great diversity of livestock systems, depending on local resources and traditions, but also on the networking space where informational resources are available for producers. During the last decades, a lot of innovations have been conceived or introduced in the Mediterranean area, allowing livestock systems to remain competitive. The book looks at two main issues: firstly, it gives an

updated review on the main innovations that significantly changed the activities of livestock production in the Mediterranean area in the recent past. Secondly, the focus lies on the extent to which these innovations improve the efficiency, ensure the socio-cultural basis or reduce the environmental impact of livestock systems. One major finding is a new vision of innovating systems based on the distinction between regulated innovation (when aims are fixed) and innovative design (when aims are questioned). Innovations reported in the book are dealing with a set of concerns. They concern the production techniques, the work organization, the equipment and infrastructures, the collective features for selection, reproduction, feeding or

sanitary devices. They also concern the local organization such as product labelling, new dynamics around local breeds, collective rules for supply basin or approaches of new products for new markets. More recently, some innovations focus on environmental impacts of livestock production, due to an increasing consciousness of those kinds of problems. In the final part of the book, a round table copes with a crucial question: are traditions in Mediterranean livestock activities to be considered an obstacle or a source of innovation? This book provides a set of updated information and knowledge useful for researchers, students, extension services and policy-makers in the field of animal science.

Computational Statistical Mechanics

W.G. Hoover 2012-12-02 Computational Statistical Mechanics describes the use of fast computers to simulate the equilibrium and nonequilibrium properties of gases, liquids, and solids at, and away from equilibrium. The underlying theory is developed from basic principles and illustrated by applying it to the simplest possible examples. Thermodynamics, based on the ideal gas thermometer, is related to Gibb's statistical mechanics through the use of Nosé-Hoover heat reservoirs. These reservoirs use integral feedback to control temperature. The same approach is carried through to the simulation and analysis of nonequilibrium mass, momentum, and energy flows. Such a unified approach makes possible consistent mechanical definitions of temperature, stress,

and heat flux which lead to a microscopic demonstration of the Second Law of Thermodynamics directly from mechanics. The intimate connection linking Lyapunov-unstable microscopic motions to macroscopic dissipative flows through multifractal phase-space structures is illustrated with many examples from the recent literature. The book is well-suited for undergraduate courses in advanced thermodynamics, statistical mechanics and transport theory, and graduate courses in physics and chemistry.

Fiber Optics Fedor Mitschke

2016-08-16 This book tells you all you want to know about optical fibers: Their structure, their light-guiding mechanism, their material and manufacture, their use. It began with telephone, then came telefax and

email. Today we use search engines, music downloads and internet videos, all of which require shuffling of bits and bytes by the zillions. The key to all this is the conduit: the line which is designed to carry massive amounts of data at breakneck speed. In their data carrying capacity optical fiber lines beat all other technologies (copper cable, microwave beacons, satellite links) hands down, at least in the long haul; wireless devices rely on fibers, too. Several effects tend to degrade the signal as it travels down the fiber: they are spelled out in detail. Nonlinear processes are given due consideration for a twofold reason: On the one hand they are fundamentally different from the more familiar processes in electrical cable. On the other hand, they form

the basis of particularly interesting and innovative applications, provided they are understood well enough. A case in point is the use of so-called solitons, i.e. special pulses of light which have the wonderful property of being able to heal after perturbation. The book will take you from the physical basics of ray and beam optics, explain fiber structure and the functions of optical elements, and bring you to the forefront of both applications and research. The state of the art of high speed data transmission is described, and the use of fiber optic sensors in metrology is treated. The book is written in a pedagogical style so that students of both physics and electrical engineering, as well as technicians and engineers involved in optical technologies,

will benefit. The new edition is largely updated and has new sections on nonlinear phenomena in fibers as well as on the latest trends in applications.

Ductile Fracture and Ductility

Bradley Dodd 1987

Severe Plastic Deformation Ghader Faraji 2018-07-14 *Severe Plastic Deformation: Methods, Processing and Properties* examines all severe plastic deformation techniques developed over the past two decades, exploring the appropriate severe plastic deformation method for a particular case. The book offers an overview of these methods, introduces ultrafine-grained and nano-grained metals and methods for various bulk, sheet, tubular and large size samples, reviews effective parameters to make a severe plastic deformation

method better, from property (mechanical) and processing (cost, time, load, etc.) viewpoints, discusses mechanical, physical and chemical properties of UFG and NS metals, and concludes with various applications for these methods. Over the last several decades, a large number of severe plastic deformation methods have been developed for processing a wide array of metals for superior properties, making this a timely resource. Collects all severe plastic deformation methods in a unique reference Compares severe plastic deformation methods from several viewpoints, including processing and final property Classifies severe plastic deformation methods based on the sample shape and mechanics, as well as the properties achieved in the processed metal

Introduces ultrafine-grained and nano-grained metals and methods for various bulk, sheet, tubular and large size samples
Fundamentals of Semiconductors Peter YU 2007-05-08 Excellent bridge between general solid-state physics textbook and research articles packed with providing detailed explanations of the electronic, vibrational, transport, and optical properties of semiconductors "The most striking feature of the book is its modern outlook ... provides a wonderful foundation. The most wonderful feature is its efficient style of exposition ... an excellent book." Physics Today "Presents the theoretical derivations carefully and in detail and gives thorough discussions of the experimental results it presents. This makes it an

excellent textbook both for learners and for more experienced researchers wishing to check facts. I have enjoyed reading it and strongly recommend it as a text for anyone working with semiconductors ... I know of no better text ... I am sure most semiconductor physicists will find this book useful and I recommend it to them." Contemporary Physics Offers much new material: an extensive appendix about the important and by now well-established, deep center known as the DX center, additional problems and the solutions to over fifty of the problems at the end of the various chapters.

Introduction to Adiabatic Shear Localization Bradley Dodd 2014-08-14
Adiabatic shear bands are found in a variety of metals and other

materials; they cause rapid weakening due to energy concentration into narrow regions of the material. This is the very first book on this important topic and the only true introduction to the subject. An enhanced and updated student-friendly edition of the authors' 1992 book *Adiabatic Shear Localization: Occurrence, Theories and Applications*, this seminal text now includes essential Further Reading sections in some chapters. It explains adiabatic shear bands in a descriptive rather than a mathematical way, with a 'quick reference' section for readers wanting a more rapid introduction. Entirely comprehensive, the reader can dip into the chapters as suits his or her course material or research. If you are a postgraduate

materials scientist, engineer, physicist, metallurgist, or indeed any researcher in materials that undergo rapid deformation and failure, this text is not to be missed.

Dorland's Dictionary of Medical Acronyms and Abbreviations E-Book

Dorland 2015-07-24 Medical acronyms and abbreviations offer convenience, but those countless shortcuts can often be confusing. Now a part of the popular Dorland's suite of products, this reference features thousands of terms from across various medical specialties. Its alphabetical arrangement makes for quick reference, and expanded coverage of symbols ensures they are easier to find. Effective communication plays an important role in all medical settings, so turn to this trusted

volume for nearly any medical abbreviation you might encounter. Symbols section makes it easier to locate unusual or seldom-used symbols. Convenient alphabetical format allows you to find the entry you need more intuitively. More than 90,000 entries and definitions. Many new and updated entries including terminology in expanding specialties, such as Nursing; Physical, Occupational, and Speech Therapies; Transcription and Coding; Computer and Technical Fields. New section on abbreviations to avoid, including Joint Commission abbreviations that are not to be used. Incorporates updates suggested by the Institute for Safe Medication Practices (ISMP). **Crystal Plasticity** Wojciech Polkowski 2021-04-27 The book presents a collection of 25 original papers

(including one review paper) on state-of-the art achievements in the theory and practice of crystals plasticity. The articles cover a wide scope of research on materials behavior subjected to external loadings, starting from atomic-scale simulations, and a new methodological aspect, to experiments on a structure and mechanical response upon a large-scale processing. Thus, a presented contribution of researchers from 18 different countries can be virtually divided into three groups, namely (i) "modelling and simulation"; (ii) "methodological aspects"; and (iii) "experiments on process/structure/properties relationship". Furthermore, a large variety of materials are investigated including more conventional (steels, copper, titanium, nickel, aluminum,

and magnesium alloys) and advanced ones (composites or high entropy alloys). The book should be interested for senior students, researchers and engineers working within discipline of materials science and solid state physics of crystalline materials.

Fundamentals of Creep in Metals and Alloys Michael E. Kassner 2004-04-06

* Numerous line drawings with consistent format and units allow easy comparison of the behavior of a very wide range of materials * Transmission electron micrographs provide a direct insight in the basic microstructure of metals deforming at high temperatures * Extensive literature review of over 1000 references provide an excellent reference document, and a very balanced discussion Understanding the

strength of materials at a range of temperatures is critically important to a huge number of researchers and practitioners from a wide range of fields and industry sectors including metallurgists, industrial designers, aerospace R&D personnel, and structural engineers. The most up-to-date and comprehensive book in the field, *Fundamentals of Creep in Metals and Alloys* discusses the fundamentals of time-dependent plasticity or creep plasticity in metals, alloys and metallic compounds. This is the first book of its kind that provides broad coverage of a range of materials not just a sub-group such as metallic compounds, superalloys or crystals. As such it presents the most balanced view of creep for all materials scientists. The theory of all of these phenomena

are extensively reviewed and analysed in view of an extensive bibliography that includes the most recent publications in the field. All sections of the book have undergone extensive peer review and therefore the reader can be sure they have access to the most up-to-date research, fully interrogated, from the world's leading investigators. · Numerous line drawings with consistent format and units allow easy comparison of the behavior of a very wide range of materials · Transmission electron micrographs provide a direct insight in the basic microstructure of metals deforming at high temperatures · Extensive literature review of over 1000 references provide an excellent reference document, and a very balanced discussion

Materials at High Strain Rates T.Z. Blazynski 1987-07-31
The Physics and Mathematics of Adiabatic Shear Bands T. W. Wright 2002-07-22 Establishes the mathematical setting within which shear bands may be studied.
IUTAM Symposium on Nonlinear Stochastic Dynamics N. Sri Namachchivaya 2003-11-30 Non-linear stochastic systems are at the center of many engineering disciplines and progress in theoretical research had led to a better understanding of non-linear phenomena. This book provides information on new fundamental results and their applications which are beginning to appear across the entire spectrum of mechanics. The outstanding points of these proceedings are Coherent compendium of the current state of modelling and

analysis of non-linear stochastic systems from engineering, applied mathematics and physics point of view. Subject areas include: Multiscale phenomena, stability and bifurcations, control and estimation, computational methods and modelling. For the Engineering and Physics communities, this book will provide first-hand information on recent mathematical developments. The applied mathematics community will benefit from the modelling and information on various possible applications.

Neutrino Mass Guido Altarelli 2003-09-08 Reviews the current state of knowledge of neutrino masses and the related question of neutrino oscillations. After an overview of the theory of neutrino masses and mixings, detailed accounts are given

of the laboratory limits on neutrino masses, astrophysical and cosmological constraints on those masses, experimental results on neutrino oscillations, the theoretical interpretation of those results, and theoretical models of neutrino masses and mixings. The book concludes with an examination of the potential of long-baseline experiments. This is an essential reference text for workers in elementary-particle physics, nuclear physics, and astrophysics.

Computer Speech Manfred R. Schroeder
1999-03-10 New material treats such contemporary subjects as automatic speech recognition and speaker

verification for banking by computer and privileged (medical, military, diplomatic) information and control access. The book also focuses on speech and audio compression for mobile communication and the Internet. The importance of subjective quality criteria is stressed. The book also contains introductions to human monaural and binaural hearing, and the basic concepts of signal analysis. Beyond speech processing, this revised and extended new edition of Computer Speech gives an overview of natural language technology and presents the nuts and bolts of state-of-the-art speech dialogue systems.