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PC Magazine Role of Women in the Workforce (Apr 82-May 88) Proceedings of the ASME Design Engineering Technical Conferences and Computers and Information in Engineering Conference - 2005 Air-sea Interaction Instrumentation (Jun 70 - Jun 85) Government Reports Annual Index Surface and Thin Film Analysis International Aerospace Abstracts PC Mag The Tetris Effect Internal Photoemission Spectroscopy Local Government Financial Statistics Oil & Gas Science and Technology Periodic Mesoporous Organosilicas Tunneling Field Effect Transistor Technology Microanalysis of Solids Wireless Information and Power Transfer: A New Paradigm for Green Communications Proceedings of Integrated Intelligence Enable Networks and Computing Electrochemically Assisted Remediation of Contaminated Soils Applications of Chalcogenides: S, Se, and Te Laser-Surface Interactions for New Materials Production Emerging Consumer Markets Green Corrosion Inhibitors Friction and Wear Direct Fluorination of Polymers Performance Based Building Design 1 Emerging Non-Volatile Memories Ellipsometry of Functional Organic Surfaces and Films Biodegradable and Biocompatible Polymer Composites Technological Applications of Nanomaterials Modern Developments and Applications in Microbeam Analysis Magnesium Technology 2019 Accessible and Usable PDF Documents Functional Coatings Variable Structure Systems, Sliding Mode and Nonlinear Control Application of Particle and Laser Beams in Materials Technology Multivariate Data Analysis MATLAB® Essentials Metal-Induced Crystallization Computing with the Raspberry Pi Surface Engineering of Polymer Membranes

Application of Particle and Laser Beams in Materials Technology

Nov 27 2019 The development of advanced materials with preselected properties is one of the main goals of materials research. Of especial interest are electronics, high-temperature and superhard materials for various applications, as well as alloys with improved wear, corrosion and mechanical resistance properties. The technical challenge connected with the production of these materials is not only associated with the development of new specialised preparation techniques but also with quality control. The energetic charged particle, electron and photon beams offer the possibility of modifying the properties of the near-surface regions of materials without seriously affecting their bulk, and provide unique analytical tools for testing their quality. This volume includes most of the lectures and contributions delivered at the NATO-funded Advanced Study Institute "Application of Particle and Laser Beams in Materials Technology", which was held in Kallithea, Chalkidiki, in Northern Greece, from the 8th to the 21st of May, 1994 and attended by 73 participants from 21 countries. The aim of this ASI was to provide to the participants an overview of this rapidly expanding field.

Fundamental aspects concerning the interactions and collisions on atomic, nuclear and solid state scale were presented in a didactic way, along with the application of a variety of techniques for the solution of problems ranging from the development of electronics materials to corrosion research and from archaeometry to environmental protection.

MATLAB® Essentials Sep 25 2019 All disciplines of science and engineering use numerical methods for complex problem analysis, due to the highly mathematical nature of the field. Analytical methods alone are unable to solve many complex problems engineering students and professionals confront. Introduction to MATLAB® Programming for Engineers and Scientists examines the basic elements of code writing, and describes MATLAB® methods for solving common engineering problems and applications across the range of engineering disciplines. The text uses a class-tested learning approach and accessible two-color page design to guide students from basic programming to the skills needed for future coursework and engineering practice.

Government Reports Annual Index Jun 26 2022

Emerging Consumer Markets Feb 08 2021 Emerging Consumer Markets looks at seven of the world's fastest developing consumer markets - Brazil, Russia, India, China, Mexico, South Africa and Turkey. This first edition has been fully researched in order to present as complete a picture as possible of modern consumer trends in these major consumer markets of the future

Technological Applications of Nanomaterials Jun 02 2020 This book contains an overview of novel synthesis, characterization, and applications of nanomaterials. Based on an extensive state-of-the-art literature survey and results obtained from researches during the past years, this book presents techniques and special applications of classical and modern nanomaterials. This book reviews different nanomaterials, from the synthesis and characterization of diverse materials to modern applications such as viral detection, hyperthermia, thermoelectric, nano-coatings, electrochromic, pigments, among others. This book is aimed at students, researchers, and engineers who seek general scientific knowledge about nanomaterials with an application-oriented approach.

Tunneling Field Effect Transistor Technology Sep 17 2021 This book provides a single-source reference to the state-of-the art in tunneling field effect transistors (TFETs). Readers will learn the TFETs physics

from advanced atomistic simulations, the TFETs fabrication process and the important roles that TFETs will play in enabling integrated circuit designs for power efficiency.

Emerging Non-Volatile Memories Sep 05 2020 This book is an introduction to the fundamentals of emerging non-volatile memories and provides an overview of future trends in the field. Readers will find coverage of seven important memory technologies, including Ferroelectric Random Access Memory (FeRAM), Ferromagnetic RAM (FMRAM), Multiferroic RAM (MFRAM), Phase-Change Memories (PCM), Oxide-based Resistive RAM (RRAM), Probe Storage, and Polymer Memories. Chapters are structured to reflect diffusions and clashes between different topics. Emerging Non-Volatile Memories is an ideal book for graduate students, faculty, and professionals working in the area of non-volatile memory. This book also: Covers key memory technologies, including Ferroelectric Random Access Memory (FeRAM), Ferromagnetic RAM (FMRAM), and Multiferroic RAM (MFRAM), among others. Provides an overview of non-volatile memory fundamentals. Broadens readers' understanding of future trends in non-volatile memories.

Proceedings of the ASME Design Engineering Technical Conferences and Computers and Information in Engineering Conference - 2005 Aug 29 2022

Ellipsometry of Functional Organic Surfaces and Films Aug 05 2020 Ellipsometry is the method of choice to determine the properties of surfaces and thin films. It provides comprehensive and sensitive characterization in contactless and non-invasive measurements. This book gives a state-of-the-art survey of ellipsometric investigations of organic films and surfaces, from laboratory to synchrotron applications, with a special focus on in-situ use in processing environments and at solid-liquid interfaces. In conjunction with the development of functional organic, meta- and hybrid materials for new optical, electronic, sensing and biotechnological devices and fabrication advances, the ellipsometric analysis of their optical and material properties has progressed rapidly in the recent years.

Electrochemically Assisted Remediation of Contaminated Soils May 14 2021 This book provides an overview of the current development status of remediation technologies involving electrochemical processes, which are used to clean up soils that are contaminated with different types of contaminants (organics, inorganics, metalloids and radioactive). Written by internationally recognized experts, it comprises 21 chapters describing the characteristics and theoretical foundations of various electrochemical applications of soil remediation. The book's opening section discusses the fundamental properties and characteristics of the soil, which are essential to understand the processes that can most effectively remove organic and inorganic compounds. This part also focuses on the primary processes that contribute to the application of electrochemically assisted remediation, hydrodynamic aspects and kinetics of contaminants in the soil. It also reviews the techniques that have been developed for the treatment of contaminated soils using electrochemistry, and discusses different strategies used to enhance performance, the type of electrode and electrolyte, and the most important operating conditions. In turn, the book's second part deals with practical applications of technologies related to the separation of pollutants from soil. Special emphasis is given to the characteristics of these technologies regarding transport of the contaminants and soil toxicity after treatment. The third part is dedicated to new technologies,

including electrokinetic remediation and hybrid approaches, for the treatment of emerging contaminants by ex-situ and in-situ production of strong oxidant species used for soil remediation. It also discusses pre-pilot scale for soil treatment and the use of solar photovoltaic panels as an energy source for powering electrochemical systems, which can reduce both the investment and maintenance costs of electrochemically assisted processes.

Periodic Mesoporous Organosilicas Oct 19 2021 This book provides a comprehensive overview of the fundamental properties, preparation routes and applications of a novel class of organic-inorganic nanocomposites known as periodic mesoporous organosilicas (PMOs). Mesoporous silicas are amorphous inorganic materials which have silicon and oxygen atoms in their framework with pore size ranging from 2 to 50 nm. They can be synthesized from surfactants as templates for the polycondensation of various silicon sources such as tetraalkoxysilane. In general, mesoporous silica materials possess high surface areas, tunable pore diameters, high pore volumes and well uniformly organized porosity. The stable chemical property and the variable ability for chemical modification makes them ideal for many applications such as drug carrier, sensor, separation, catalyst, and adsorbent. Among such mesoporous silicas, in 1999, three groups in Canada, Germany, and Japan independently developed a novel class of organic-inorganic nanocomposites known as periodic mesoporous organosilicas (PMOs). The organic functional groups in the frameworks of these solids allow tuning of their surface properties and modification of the bulk properties of the material. The book discusses the properties of PMOs, their preparation, different functionalities and morphology, before going on to applications in fields such as catalysis, drug delivery, sensing, optics, electronic devices, environmental applications (gas sensing and gas adsorption), biomolecule adsorption and chromatography. The book provides fundamental understanding of PMOs and their advanced applications for general materials chemists and is an excellent guide to these promising novel materials for graduate students majoring in chemical engineering, chemistry, polymer science and materials science and engineering.

Microanalysis of Solids Aug 17 2021 The main objective of this book is to systematically describe the basic principles of the most widely used techniques for the analysis of physical, structural, and compositional properties of solids with a spatial resolution of approximately 1 μ m or less. Many books and reviews on a wide variety of microanalysis techniques have appeared in recent years, and the purpose of this book is not to replace them. Rather, the motivation for combining the descriptions of various microanalysis techniques in one comprehensive volume is the need for a reference source to help identify microanalysis techniques, and their capabilities, for obtaining particular information on solid-state materials. In principle, there are several possible ways to group the various micro analysis techniques. They can be distinguished by the means of excitation, or the emitted species, or whether they are surface or bulk-sensitive techniques, or on the basis of the information obtained. We have chosen to group them according to the means of excitation. Thus, the major parts of the book are: Electron Beam Techniques, Ion Beam Techniques, Photon Beam Techniques, Acoustic Wave Excitation, and Tunneling of Electrons and Scanning Probe Microscopies. We hope that this book will be useful to students (final year undergraduates and graduates) and researchers, such as physicists, material scientists, electrical engineers, and chemists, working in a wide variety of fields in solid state sciences.

Wireless Information and Power Transfer: A New Paradigm for Green Communications Jul 16 2021 This book presents breakthroughs in the design of Wireless Energy Harvesting (WEH) networks. It bridges the gap between WEH through radio waves communications and power transfer, which have largely been designed separately. The authors present an overview of the RF-EHNs including system architecture and RF energy harvesting techniques and existing applications. They also cover the idea of WEH in novel discoveries of information, the theoretical bounds in WEH, wireless sensor networks, usage of modern channel coding together with WEH, energy efficient resource allocation mechanisms, distributed self-organized energy efficient designs, delay-energy trade-off, specific protocols for energy efficient communication designs, D2D communication and energy efficiency, cooperative wireless networks, and cognitive networks.

Surface and Thin Film Analysis May 26 2022 Surveying and comparing all techniques relevant for practical applications in surface and thin film analysis, this second edition of a bestseller is a vital guide to this hot topic in nano- and surface technology. This new book has been

revised and updated and is divided into four parts - electron, ion, and photon detection, as well as scanning probe microscopy. New chapters have been added to cover such techniques as SNOM, FIM, atom probe (AP), and sum frequency generation (SFG). Appendices with a summary and comparison of techniques and a list of equipment suppliers make this book a rapid reference for materials scientists, analytical chemists, and those working in the biotechnological industry. From a Review of the First Edition (edited by Bubert and Jenett) "... a useful resource..." (Journal of the American Chemical Society)

Surface Engineering of Polymer Membranes Jun 22 2019 Surface Engineering of Polymer Membranes covers the processes that modify membrane surfaces to improve their in-service performance, meaning, to confer surface properties which are different from the bulk properties. Purposes may be to minimize fouling, modulate hydrophilicity/hydrophobicity, enhance biocompatibility, create diffusion barriers, provide functionalities, mimic biomembranes, fabricate nanostructures, etc. First, the basics of surface engineering of polymer membranes are covered. Then topics such as surface modification by graft polymerization and macromolecule immobilization, biomimetic surfaces, enzyme immobilization, molecular recognition, and nanostructured surfaces are discussed. This book provides a unique synthesis of the knowledge of the role of surface chemistry and physics in membrane science. Dr. Zhikang Xu of the Institute of Polymer Science of Zhejiang University has eight Chinese patents and in 2006 was honored as a Distinguished Young Scholar by the National Natural Science Foundation of China (NNSFC).

Oil & Gas Science and Technology Nov 19 2021

International Aerospace Abstracts Apr 24 2022

Laser-Surface Interactions for New Materials Production Mar 12 2021 This book provides an overview on nanosecond and ultra-short laser-induced phenomena and the related diagnostics. It grew from the lectures of the International School "Laser-surface interactions for new materials production" held in July 2008.

PC Magazine Oct 31 2022

Green Corrosion Inhibitors Jan 10 2021 A book to cover developments in corrosion inhibitors is long overdue. This has been addressed by Dr Sastri in a book which presents fundamental aspects of corrosion inhibition, historical developments and the industrial applications of inhibitors. The book deals with the electrochemical principles and chemical aspects of corrosion inhibition, such as stability of metal complexes, the Hammett equation, hard and soft acid and base principle, quantum chemical aspects and Hansch's model and also with the various surface analysis techniques, e.g. XPS, Auger, SIMS and Raman spectroscopy, that are used in industry for corrosion inhibition. The applications of corrosion inhibition are wide ranging. Examples given in this book include: oil and gas wells, petrochemical plants, steel reinforced cement, water cooling systems, and many more. The final chapters discuss economic and environmental considerations which are now of prime importance. The book is written for researchers in academia and industry, practicing corrosion engineers and students of materials science, engineering and applied chemistry.

Applications of Chalcogenides: S, Se, and Te Apr 12 2021 This book introduces readers to a wide range of applications for elements in Group 16 of the periodic table, such as, optical fibers for communication and sensing, X-ray imaging, electrochemical sensors, data storage devices, biomedical applications, photovoltaics and IR detectors, the rationale for these uses, the future scope of their applications, and expected improvements to existing technologies. Following an introductory section, the book is broadly divided into three parts—dealing with Sulfur, Selenium, and Tellurium. The sections cover the basic structure of the elements and their compounds in bulk and nanostructured forms; properties that make these useful for various applications, followed by applications and commercial products. As the global technology revolution necessitates the search for new materials and more efficient devices in the electronics and semiconductor industry, Applications of Chalcogenides: S, Se, and Te is an ideal book for a wide range of readers in industry, government and academic research facilities looking beyond silicon for materials used in the electronic and optoelectronic industry as well as biomedical applications.

Direct Fluorination of Polymers Nov 07 2020 "In this book fundamental features and industrial applications of the direct fluorination of polymers are reviewed. Direct fluorination of polymers (i.e. treatment of a polymer surface with gaseous fluorine and its mixtures) proceeds at room temperature spontaneously and can be considered as a surface modification process."--BOOK JACKET.

Friction and Wear Dec 09 2020 This book introduces the basic concepts of contact mechanics, friction, lubrication, and wear mechanisms, providing simplified analytical relationships that are useful for quantitative assessments. Subsequently, an overview on the main wear processes is provided, and guidelines on the most suitable design solutions for each specific application are outlined. The final part of the text is devoted to a description of the main materials and surface treatments specifically developed for tribological applications and to the presentation of tribological systems of particular engineering relevance. The text is up to date with the latest developments in the field of tribology and provides a theoretical framework to explain friction and wear problems, together with practical tools for their resolution. The text is intended for students on Engineering courses (both bachelor and master degrees) who must develop a sound understanding of friction, wear, lubrication, and surface engineering, and for technicians or professionals who need to solve tribological problems in their work.

Proceedings of Integrated Intelligence Enable Networks and Computing Jun 14 2021 This book presents best selected research papers presented at the First International Conference on Integrated Intelligence Enable Networks and Computing (IINENC 2020), held from May 25 to May 27, 2020, at the Institute of Technology, Gopeshwar, India (Government Institute of Uttarakhand Government and affiliated to Uttarakhand Technical University). The book includes papers in the field of intelligent computing. The book covers the areas of machine learning and robotics, signal processing and Internet of things, big data and renewable energy sources.

PC Mag Mar 24 2022 PCMag.com is a leading authority on technology, delivering Labs-based, independent reviews of the latest products and services. Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology.

Computing with the Raspberry Pi Jul 24 2019 The Raspberry Pi is about as minimalist as a computer gets, but it has the power to run a full Linux operating system and many great desktop and command line tools as well. Can you push it to operate at the level of a \$2,000 computer? This book is here to help you find out. The primary focus of this book is getting as much as possible done with a simple Pi through non-graphic, non-mouse means. This means the keyboard and the text-mode screen. On the desktop side, you'll look at many of the most powerful GUI apps available, as these offer an easy entry to get started as you learn the command line. You'll begin by setting up and configuring a Raspberry Pi with the option to run it as a graphical desktop environment or even more economically boot straight to the command line. If you want more performance, more efficiency, and (arguably) less complexity from your Pi that can only be found through the keyboard and command line. You'll also set up and configure a Raspberry Pi to use command line tools from within either the Raspberry Pi terminal, or by logging in remotely through some other computer. Once in, you'll look at Package Managers, Tmux, Ranger, and Midnight Commander as general-purpose power tools. The book then gets into specific task-oriented tools for reading email, spreadsheet work, notes, security, web browsing and design, social media, task and video password management, coding, and much more. There are conceptual overviews of Markdown, LaTeX, and Vim for work. What You'll Learn Set up a Raspberry Pi system to get real work done using only the command line Login to a Pi remotely to use it as a remote server Integrate desktop Linux with command line mastery to optimize a Pi Work with tools for audio, writing news and weather, books, and graphics. Who This Book Is For Those with minimal technical skills or hobbyists who are interested in "retro computing" or "minimalist" approaches.

Multivariate Data Analysis Oct 26 2019 "Multivariate Data Analysis - in practice adopts a practical, non-mathematical approach to multivariate data analysis. The book's principal objective is to provide a conceptual framework for multivariate data analysis techniques, enabling the reader to apply these in his or her own field. Features: Focuses on the practical application of multivariate techniques such as PCA, PCR and PLS and experimental design. Non-mathematical approach - ideal for analysts with little or no background in statistics. Step by step introduction of new concepts and techniques promotes ease of learning. Theory supported by hands-on exercises based on real-world data. A full training copy of The Unscrambler (for Windows 95, Windows NT 3.51 or later versions) including data sets for the exercises is available. Tutorial exercises based on data from real-world applications are used throughout the book to illustrate the use of the techniques introduced, providing the reader with a working knowledge of modern multivariate data analysis and experimental design. All exercises use The

Unscrambler, a de facto industry standard for multivariate data analysis software packages. Multivariate Data Analysis in Practice is an excellent self-study text for scientists, chemists and engineers from all disciplines (non-statisticians) wishing to exploit the power of practical multivariate methods. It is very suitable for teaching purposes at the introductory level, and it can always be supplemented with higher level theoretical literature."Résumé de l'éditeur.

The Tetris Effect Feb 20 2022 The definitive story of a game so great, even the Cold War couldn't stop it Tetris is perhaps the most instantly recognizable, popular video game ever made. But how did an obscure Soviet programmer, working on frail, antiquated computers, create a product which has now earned nearly 1 billion in sales? How did a makeshift game turn into a worldwide sensation, which has been displayed at the Museum of Modern Art, inspired a big-budget sci-fi movie, and been played in outer space? A quiet but brilliant young man, Alexey Pajitnov had long nurtured a love for the obscure puzzle game pentominoes, and became obsessed with turning it into a computer game. Little did he know that the project that he labored on alone, hour after hour, would soon become the most addictive game ever made. In this fast-paced business story, reporter Dan Ackerman reveals how Tetris became one of the world's first viral hits, passed from player to player, eventually breaking through the Iron Curtain into the West. British, American, and Japanese moguls waged a bitter fight over the rights, sending their fixers racing around the globe to secure backroom deals, while a secretive Soviet organization named ELORG chased down the game's growing global profits. The Tetris Effect is an homage to both creator and creation, and a must-read for anyone who's ever played the game—which is to say everyone.

Modern Developments and Applications in Microbeam Analysis May 02 2020 This supplement of Mikrochimica Acta contains selected papers from the Fifth Workshop of the European Microbeam Analysis Society (EMAS) on "Modern Developments and Applications in Microbeam Analysis" which took place from the 11 to 15 May 1997 in Torquay (UK). EMAS was founded in 1986 by scientists from many European countries in order to stimulate research in microbeam analysis and into its development and application. The society now has over 350 members from more than 20 countries. An important EMAS activity is the organisation of biennial workshops which focus upon the current status and developing trends in microanalytical techniques. For this meeting EMAS chose to invite speakers on the following subjects: Standardless analysis, EPMA techniques for quantitative near-surface analysis and depth profiling, Matrix corrections in Auger electron and X-ray photon spectroscopy, X-ray analysis and imaging using low voltage beams, Scanning probe and near field microscopies, EPMA of frozen biological bulk samples, Environmental SEM and X-ray microanalysis of biological materials, Quantitative elemental mapping of X-ray radiographs by factorial correspondence, X-ray spectrum processing and multivariate analysis, Thin film analysis and chemical mapping in the analytical electron microscope, Wavelength dispersive X-ray spectroscopy, High resolution non dispersive X-ray spectroscopy with state-of-the-art silicon detectors and Recent developments in instrumentation for X-ray analysis. These invited lectures were given by eminent scientists from Europe, the USA, and Australia In addition to the introductory lectures there were poster sessions at which some 110 posters were on display.

Magnesium Technology 2019 Mar 31 2020 The Magnesium Technology Symposium, the event on which this collection is based, is one of the largest yearly gatherings of magnesium specialists in the world. Papers represent all aspects of the field, ranging from primary production to applications to recycling. Moreover, papers explore everything from basic research findings to industrialization. Magnesium Technology 2019 covers a broad spectrum of current topics, including alloys and their properties; cast products and processing; wrought products and processing; forming, joining, and machining; corrosion and surface finishing; and structural applications. In addition, there is coverage of new and emerging applications.

Internal Photoemission Spectroscopy Jan 22 2022 The second edition of Internal Photoemission Spectroscopy thoroughly updates this vital, practical guide to internal photoemission (IPE) phenomena and measurements. The book's discussion of fundamental physical and technical aspects of IPE spectroscopic applications is supplemented by an extended overview of recent experimental results in swiftly advancing research fields. These include the development of insulating materials for advanced SiMOS technology, metal gate materials, development of heterostructures based on high-mobility semiconductors, and more. Recent results concerning the band structure of important interfaces in

novel materials are covered as well. Internal photoemission involves the physics of charge carrier photoemission from one solid to another, and different spectroscopic applications of this phenomenon to solid state heterojunctions. This technique complements conventional external photoemission spectroscopy by analyzing interfaces separated from the sample surface by a layer of a different solid or liquid. Internal photoemission provides the most straightforward, reliable information regarding the energy spectrum of electron states at interfaces. At the same time, the method enables the analysis of heterostructures relevant to modern micro- and nano-electronic devices as well as new materials involved in their design and fabrication. First complete model description of the internal photoemission phenomena Overview of the most reliable energy barrier determination procedures and trap characterization methods Overview of the most recent results on band structure of high-permittivity insulating materials and their interfaces with semiconductors and metals

Accessible and Usable PDF Documents Feb 29 2020 "This book is designed to answer some of your questions about the accessibility and usability of PDF documents. The focus is on Adobe Systems® tools, Microsoft Office® and its tools and an ability to use them to create tagged, accessible PDF documents ..." -- P. 19.

Biodegradable and Biocompatible Polymer Composites Jul 04 2020 Biodegradable and Biocompatible Polymer Composites: Processing, Properties and Applications begins by discussing the current state-of-the-art, new challenges and opportunities for various biodegradable and biocompatible polymer composite systems. Interfacial characterization of composites and the structure-property relationships in various composite systems are explained in detail via a theoretical model. Processing techniques for various macro and nanocomposite systems and the influence of processing parameters on properties of the composite are also reviewed in detail. The characterization of microstructure, elastic, visco-elastic, static and dynamic mechanical, thermal, rheological, optical, and electrical properties are highlighted, as are a broad range of applications. The book is a useful reference resource for both researchers and engineers working in composites materials science, biotechnology and nanotechnology, and is also useful for students attending chemistry, physics, and materials science and engineering courses. Presents recent outcomes and highlights the going importance of biodegradable and biocompatible polymer composites and their impact on the environment Analyzes all the main processing techniques, characterization and applications of biodegradable composites Written by leading international experts working in the field of biodegradable and biocompatible polymer composites Covers a broad range of application fields, including medical and pharmaceutical, agricultural, packaging and transport

Performance Based Building Design 1 Oct 07 2020 Just like building physics, performance based building design was hardly an issue before the energy crises of the 1970s. With the need to upgrade energy efficiency, the interest in overall building performance grew. The term "performance" encompasses all building-related physical properties and qualities that are predictable during the design stage and controllable during and after construction. The term "predictable" demands calculation tools and physical models that allow evaluating a design, whereas "controllable" presumes the existence of measuring methods available on site. The basis for a system of performance arrays are the functional demands, the needs for accessibility, safety, well-being, durability, energy efficiency and sustainability and the requirements imposed by the usage of a building. As the first of two volumes, this book applies the performance rationale, advanced in applied building physics, to the design and construction of buildings. After an overview of

materials for thermal insulation, water proofing, air tightening and vapour tightening and a discussion on joints, building construction is analysed, starting with the excavations. Then foundations, below and on grade constructions, typical load bearing systems and floors pass the review to end with massive outer walls insulated at the inside and the outside and cavity walls. Most chapters build on a same scheme: overview, overall performance evaluation, design and construction. The book is absolutely recommended to undergraduates and graduates in architectural and building engineering, though also building engineers, who want to refresh their knowledge, may benefit. The level of discussion assumes the reader has a sound knowledge of building physics, along with a background in structural engineering, building materials and building construction. Where and when needed, input and literature from over the world was used, reason why each chapter ends listing references and literature.

Metal-Induced Crystallization Aug 24 2019 Crystalline semiconductors in the form of thin films are crucial materials for many modern, advanced technologies in fields such as microelectronics, optoelectronics, display technology, and photovoltaic technology. Crystalline semiconductors can be produced at surprisingly low temperatures (as low as 120°C) by crystallization of amorphous semiconductors, which are put in contact with a metal. This so-called metal-induced crystallization process has attracted great scientific and technological interest because it allows the production of crystalline semiconductor-based advanced devices at very low temperatures, for example, directly on low-cost (but often heat-sensitive) substrates. This book provides the first comprehensive and in-depth overview of the current fundamental understanding of the metal-induced crystallization process and further elucidates how to employ this process in different technologies, for example, in thin-film solar cells and display technologies. It aims to give the reader a comprehensive perspective of the metal-induced crystallization process and thereby stimulate the development of novel crystalline semiconductor-based technologies.

Variable Structure Systems, Sliding Mode and Nonlinear Control Dec 29 2019 This book comprises a selection of papers that were first presented at VSS98 (5th International Workshop on Variable Structure Systems) held in Sarasota, Florida. This workshop was the fifth in a series of VSS international workshops, and the first to be held in the United States. Work presented herein on theoretical developments and applications on VSS and Sliding Mode, reflects how trends have advanced beyond the original ideas that are now well documented in a number of books and research monographs. In particular, the concepts of Sliding Sector and Second Order Sliding Mode introduced in this volume, will stimulate discussions and invite further extensions. Also, the focus on Sampled Data systems represents a positive trend towards practical industrial implementations of sliding mode controllers.

Role of Women in the Workforce (Apr 82-May 88) Sep 29 2022 Local Government Financial Statistics Dec 21 2021

Functional Coatings Jan 28 2020 This first book to concentrate on providing a concise, representative overview of polymer microencapsulation for novel organic coatings and all its chemical and engineering aspects collates the literature hitherto spread out among journals in various disciplines. It covers all the important methods for carrying out microencapsulations, including in situ polymerization, phase separation, emulsification, grinding and spray drying. The result is a solid, introduction from first-hand practitioners working in industry and research institutions for newcomers to the field. It is equally vital reading for professionals already active in the area needing to stay abreast of developments.

Air-sea Interaction Instrumentation (Jun 70 - Jun 85) Jul 28 2022