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Diagenesis, IV The Electrocaloric Effect Economic Growth Organic Nonlinear Optical Materials Growth of Crystals Optimal Control of Coupled Systems of Partial Differential Equations Chemical Solution Deposition of Functional Oxide Thin Films Handbook of Research on Algae as a Sustainable Solution for Food, Energy, and the Environment Surface and Colloid Science Non-Linear Fracture NASA Technical Memorandum Ion Partitioning in Ambient-Temperature Aqueous Systems Chemical Engineering Volume 2 Chemical Solution Deposition Of Semiconductor Films Ill-Posed Problems for Integrodifferential Equations in Mechanics and Electromagnetic Theory Coulson and Richardson's Chemical Engineering Thermodynamics and Kinetics of Water-Rock Interaction Encyclopedia of Surface and Colloid Science Etching of Crystals PHYSICAL, CHEMICAL AND BIOLOGICAL ASPECTS OF WATER -Volume I SIAM Journal on Control and Optimization A Solution to the Crises of Soil, Water, and Climate in Plant Production Complex Delay-Differential Equations Handbook of Software Solutions for ICME Advances in Mechanics and Mathematics Silicon Chemical Etching Colloidal Nanoparticles Proceedings of the Norderney Symposium on Scientific Results of the German Spacelab Mission D1 Solution Processing for Copper Indium Sulfide Solar Cells Perovskite Solar Cells The Organism as a Whole From a Physicochemical Viewpoint Trends in Colloid and Interface Science XV Handbook of Zinc Oxide and Related Materials Eurasian Economic Perspectives Application of Solution Protein Chemistry to Biotechnology Trends in Colloid and Interface Science XIV A Stability Technique for Evolution Partial Differential Equations Advances in Superconductivity VIII Physical Chemistry of Semiconductor Materials and Processes Vierter Internationaler Kongress für Elektronenmikroskopie / Fourth International Conference on Electron Microscopy / Quatrième Congrès International de Microscopie Électronique

Diagenesis, IV

1994-02-03

the present volume continues the philosophy of gathering contributions on diagenesis on behalf of those requiring such periodic literary surveys namely academics and practitioners teachers researchers and oil and ore explorationists

The Electrocaloric Effect

2023-02-16

the electrocaloric effect materials and applications reviews the fundamentals of the electrocaloric effect the most relevant electrocaloric materials and electrocaloric measurements and device applications the book introduces the electrocaloric effect along with modeling and simulations of this effect then it addresses the latest advances in synthesis characterization and optimization of the most relevant electrocaloric materials including ferroelectric materials liquid materials lead free materials polymers and composites finally there is a review of the latest techniques in measurement and applications in refrigeration and cooling and a discussion of the advantages challenges and perspectives of the future of electrocaloric refrigeration provides a comprehensive introduction to the electrocaloric effect including experimental techniques to measure model and simulate the effect reviews the most relevant electrocaloric materials such as composites polymers metal oxides ferroelectric materials and more touches on the design and application of electrocaloric materials for devices with potential cooling and refrigeration applications

Economic Growth

2008-10-06

this is a book on deterministic and stochastic growth theory and the computational methods needed to produce numerical solutions exogenous and endogenous growth models are thoroughly reviewed

special attention is paid to the use of these models for fiscal and monetary policy analysis modern business cycle theory the new keynesian macroeconomics the class of dynamic stochastic general equilibrium models can be all considered as special cases of models of economic growth and they can be analyzed by the theoretical and numerical procedures provided in the textbook analytical discussions are presented in full detail the book is self contained and it is designed so that the student advances in the theoretical and the computational issues in parallel excel and matlab files are provided on an accompanying website to illustrate theoretical results as well as to simulate the effects of economic policy interventions

Organic Nonlinear Optical Materials

2020-04-23

organic nonlinear optical materials provides an extensive description of the preparation and characterization of organic materials for applications in nonlinear and electro optics the book discusses the fundamental optimization and practical limitations of a number of figures of merit for various optical parameters and gives a clinical appraisal o

Growth of Crystals

2012-12-06

this volume as the previous ones consists primarily of review artic1es however it also contains a large quantity of original material on the growth of crystals and films priority is given to experimental work only two artic1es are concerned exc1usively with the theory of crystal growth theoretical aspects are treated in several others this volume is divided into three parts part i epitaxy and transformations in thin films stems from the current broad application of lasers and optical effects in general to crystal growth in particular the growth of thin films the first three artic1es of the book are devoted to this topic in particular the laser pulse vaporization method for which a comparatively slow deposition rate is typical which should not always be viewed as a drawback is distinguished by the unique kinetics of the initial growth stages these are not entirely explained however this method is completely suitable for in situ monitoring

ordered growth of films under otherwise equal conditions another artic1e of this section is based on use of ultrashort down to picosecond laser pulses it emphasizes the nonequilibrium processes of crystallization and decrystallization that are characteristic for such influences in particular material heated above its melting point and metastable states in the semiconductor melt exhibit these qualities

Optimal Control of Coupled Systems of Partial Differential Equations

2009-12-03

contains contributions originating from the conference on optimal control of coupled systems of partial differential equations held at the mathematisches forschungsinstitut oberwolfach in march 2008 this work covers a range of topics such as controllability optimality systems model reduction techniques and fluid structure interactions

Chemical Solution Deposition of Functional Oxide Thin Films

2014-01-24

this is the first text to cover all aspects of solution processed functional oxide thin films chemical solution deposition csd comprises all solution based thin film deposition techniques which involve chemical reactions of precursors during the formation of the oxide films i e sol gel type routes metallo organic decomposition routes hybrid routes etc while the development of sol gel type processes for optical coatings on glass by silicon dioxide and titanium dioxide dates from the mid 20th century the first csd derived electronic oxide thin films such as lead zirconate titanate were prepared in the 1980 s since then csd has emerged as a highly flexible and cost effective technique for the fabrication of a very wide variety of functional oxide thin films application areas include for example integrated dielectric capacitors ferroelectric random access memories pyroelectric infrared detectors piezoelectric micro electromechanical systems antireflective coatings optical filters conducting transparent conducting and superconducting layers luminescent coatings gas sensors thin film solid oxide fuel cells and

photoelectrocatalytic solar cells in the appendix detailed cooking recipes for selected material systems are offered

Handbook of Research on Algae as a Sustainable Solution for Food, Energy, and the Environment

2022-06-03

today s planet faces several critical problems such as resource depletion environmental destruction and climate change that affect all areas of life as we know it figuring out how to address these issues and prioritizing earth s health has been at the forefront of study as it is a key issue that affects us all one element that requires further investigation is algae regarding its potential for creating a more sustainable future across the food energy and environmental sectors the handbook of research on algae as a sustainable solution for food energy and the environment provides insight into the biotechnological and biorefinery aspects of algae together with their unique applications in the agriculture and pharmaceutical industry furthermore this book considers the biological and biotechnological processes happening in the cultivation and harvesting of algae dna sequencing and genomics of algae moreover it examines the bio remediation aspects of algae and its utilization to produce biofuels methane hydrogen and other useful renewable sources of energy thereby contributing to environmental sustainability covering topics such as cell biology and food science this reference work is ideal for academicians researchers industry professionals scholars practitioners instructors and students

Surface and Colloid Science

2004-12-08

this volume includes 58 contributions to the 11th international conference on surface and colloid science a highly successful conference sponsored by the international association of colloid and interface scientists and held in iguassu falls brazil in september 2003 topics covered are the following biocolloids and biological applications charged particles and interfaces colloid stability colloidal dispersions environmental colloidal science interfaces and adsorption

nanostructures and nanotechnology self assembly and structured fluids surfactants and polymers technology and applications colloids and surfaces in oil production surface and colloid science has acquired great momentum during the past twenty years and this volume is a good display of new results and new directions in this important area

Non-Linear Fracture

2013-03-09

from time to time the international journal of fracture has presented special matters thought to be of interest to its readers in previous issues for example dr h w liu as guest editor assembled a series of review papers dealing with fatigue processes and characteristics in metals and non metals december 1980 and april 1981 five years ago guest editor w g knauss collected works dealing with dynamic fracture march and april 1985 continuing this policy dr w g knauss and dr a j rosakis of the california institute of technology as guest editors have now organized an extensive set of papers concerning the influence of non linear effects upon the mechanics of the fracture process this collection is based upon contributions to a relatively small international symposium on non linear fracture mechanics held under the auspices of the international union of theoretical and applied mechanics iutam and convened at the california institute of technology in march 1988 it should be noted that although the description of non linear fracture inherently encompasses a strong material science component this aspect is not heavily emphasized in the ensuing papers due to the intentional focus upon mechanics volume 42 of the international journal of fracture will therefore in successive issues deal respectively with topics in 1 damage 2 interfaces and creep 3 time dependence and 4 continuum plasticity on behalf of the editors and publishers i wish to express our appreciation to dr knauss dr rosakis and their colleagues for their collective efforts

NASA Technical Memorandum

1988

understanding in detail the ion partitioning in mineralwater interactions is of fundamental

importance to geochemical studies and ultimately to society the solid solution properties of minerals are a significant part of the complexity and also the importance of these ion partitioning reactions

Ion Partitioning in Ambient-Temperature Aqueous Systems

2010-11-15

chemical engineering volume 2 covers the properties of particulate systems including the character of individual particles and their behaviour in fluids sedimentation of particles both singly and at high concentrations flow in packed and fluidised beads and filtration are then examined the latter part of the book deals with separation processes such as distillation and gas absorption which illustrate applications of the fundamental principles of mass transfer introduced in chemical engineering volume 1 in conclusion several techniques of growing importance adsorption ion exchange chromatographic and membrane separations and process intensification are described a logical progression of chemical engineering concepts volume 2 builds on fundamental principles contained in chemical engineering volume 1 and these volumes are fully cross referenced reflects the growth in complexity and stature of chemical engineering over the last few years supported with further reading at the end of each chapter and graded problems at the end of the book

Chemical Engineering Volume 2

2013-10-22

discussing specific depositions of a wide range of semiconductors and properties of the resulting films chemical solution deposition of semiconductor films examines the processes involved and explains the effect of various process parameters on final film and film deposition outcomes through the use of detailed examples supplying experimental res

Chemical Solution Deposition Of Semiconductor Films

2002-10-08

examines initial history boundary value problems associated with systems of partial integrodifferential equations arising in mechanics and electromagnetic theories

Ill-Posed Problems for Integrodifferential Equations in Mechanics and Electromagnetic Theory

1981-10-01

coulson and richardson s chemical engineering volume 2b separation processes sixth edition covers distillation and gas absorption illustrating applications of the fundamental principles of mass transfer several techniques including adsorption ion exchange chromatographic membrane separations and process intensification are comprehensively covered and explored presents content converted from textbooks into fully revised reference material provides content that ranges from foundational to technical includes new additions such as emerging applications numerical methods and computational tools

Coulson and Richardson's Chemical Engineering

2022-09-09

volume 70 of reviews in mineralogy and geochemistry represents an extensive review of the material presented by the invited speakers at a short course on thermodynamics and kinetics of water rock interaction held prior to the 19th annual v m goldschmidt conference in davos switzerland june 19 21 2009 contents thermodynamic databases for water rock interaction thermodynamics of solid solution aqueous solution systems mineral replacement reactions thermodynamic concepts in modeling sorption at the mineral water interface surface complexation modeling mineral fluid equilbria at the molecular scale the link between mineral dissolution

precipitation kinetics and solution chemistry organics in water rock interactions mineral precipitation kinetics towards an integrated model of weathering climate and biospheric processes approaches to modeling weathered regolith fluid rock interaction a reactive transport approach geochemical modeling of reaction paths and geochemical reaction networks

Thermodynamics and Kinetics of Water-Rock Interaction

2018-12-17

defects in solids volume 15 etching of crystals theory experiment and application focuses on the processes reactions and methodologies involved in the etching of crystals including thermodynamics and diffusion the publication first underscores the defects in crystals detection of defects and growth and dissolution of crystals discussions focus on thermodynamic theories nature of pit sites surface roughening during diffusion controlled dissolution growth controlled by simultaneous mass transfer and surface reactions and chemical and thermal etching the text then examines the theories of dissolution and etch pit formation and the chemical aspects of the dissolution process including catalytic reactions dissolution of semiconductors topochemical adsorption theories and diffusion theories the book tackles the solubility of crystals and complexes in solution and the kinetics and mechanism of dissolution topics include metallic crystals semiconductors stability of complexes relationship between solubility surface energy and hardness of crystals and solvents for crystals and estimation of crystal solubility in solvents other than water the publication is a dependable source of data for readers interested in the etching of crystals

Encyclopedia of Surface and Colloid Science

2006

physical chemical and biological aspects of water is a component of encyclopedia of water sciences engineering and technology resources in the global encyclopedia of life support systems eolss which is an integrated compendium of twenty one encyclopedias the volume presents state of the art subject matter of various aspects of physical chemical and biological aspects of water

such as electrochemical processes biological contamination of water separation thermodynamics process thermodynamics separation phenomena in some desalination processes thermal desalination processes membrane based desalination processes some practical aspects of desalination processes properties of natural waters physical and thermodynamic properties of water in the liquid phase general characteristics of water an overview of fouling biofouling composite fouling fundamentals and mechanisms common foulants in desalination inorganic salts crystallization fouling biological foulants change of distiller performance with fouling this volume is aimed at the following five major target audiences university and college students educators professional practitioners research personnel and policy and decision makers

Etching of Crystals

2012-12-02

this book contains information on solutions to soil water and environmental issues the deterioration of fertile soil fresh clean water and hygienic and green environments for many reasons have created concerns among the scientific community soil water and the environment are threatened by chemical applications pesticides and fertilizers for example natural disasters erosion volcanic eruptions etc and other anthropogenic activities ghg emission deforestation urbanization and more life is dependent on these resources if the soil is lost from where can we produce food if water is lost how will life persist if the environment is not clean how will living beings humans animals and birds survive this book demonstrates critical thinking about how we might save these precious resources

PHYSICAL, CHEMICAL AND BIOLOGICAL ASPECTS OF WATER -Volume I

2010-02-23

this book presents developments and new results on complex differential difference equations an area with important and interesting applications which also gathers increasing attention key problems methods and results related to complex differential difference equations are collected to offer an up to date overview of the field

SIAM Journal on Control and Optimization

2007

as one of the results of an ambitious project this handbook provides a well structured directory of globally available software tools in the area of integrated computational materials engineering icme the compilation covers models software tools and numerical methods allowing describing electronic atomistic and mesoscopic phenomena which in their combination determine the microstructure and the properties of materials it reaches out to simulations of component manufacture comprising primary shaping forming joining coating heat treatment and machining processes models and tools addressing the in service behavior like fatigue corrosion and eventually recycling complete the compilation an introductory overview is provided for each of these different modelling areas highlighting the relevant phenomena and also discussing the current state for the different simulation approaches a must have for researchers application engineers and simulation software providers seeking a holistic overview about the current state of the art in a huge variety of modelling topics this handbook equally serves as a reference manual for academic and commercial software developers and providers for industrial users of simulation software and for decision makers seeking to optimize their production by simulations in view of its sound introductions into the different fields of materials physics materials chemistry materials engineering and materials processing it also serves as a tutorial for students in the emerging discipline of icme which requires a broad view on things and at least a basic education in adjacent fields

A Solution to the Crises of Soil, Water, and Climate in Plant Production

2023-07-25

advances in mechanics and mathematics amma is intended to bridge the gap by providing multi disciplinary publications this volume amma 2002 includes two parts with three articles by four subject experts part 1 deals with nonsmooth static and dynamic systems a systematic mathematical theory for multibody dynamics with unilateral and frictional constraints and a brief introduction

to hemivariational inequalities together with some new developments in nonsmooth semi linear elliptic boundary value problems are presented part 2 provides a comprehensive introduction and the latest research on dendritic growth in fluid mechanics one of the most profound and fundamental subjects in the area of interfacial pattern formation a commonly observed phenomenon in crystal growth and solidification processes

Complex Delay-Differential Equations

2021-06-08

in the first contribution to this volume we read that the world wide production of single crystal silicon amounts to some 2000 metric tons per year given the size of present day silicon crystals this number is equivalent to 100000 silicon crystals grown every year by either the czochralski 80 or the floating zone 20 technique but to the best of my knowledge no coherent and comprehensive article has been written that deals with the art and science as well as the practical and technical aspects of growing silicon crystals by the czochralski technique the same could be said about the floating zone technique were it not for the review article by w dietze w keller and a miihlbauer which was published in the preceding volume 5 silicon of this series and for a monograph by two of the above authors published about the same time as editor of this volume i am very glad to have succeeded in persuading two scien tists w zulehner and d huber of wacker chemitronic gmbh the world s largest producer of silicon crystals to write a comprehensive article about the practical and scientific aspects of growing silicon crystals by the czochralski method and about silicon wafer manufacture i am sure that many scientists or engineers who work with silicon crystals be it in the laboratory or in a production environment will profit from the first article in this volume

Handbook of Software Solutions for ICME

2016-09-20

this book will focus on synthesis coating and functionalization chemistry of selected nanoparticles that are most commonly used in various biomedical applications and

selected chemical synthetic methods it focusses on design consideration of functionalization selected coating chemistry for transforming as synthesized nanoparticle selected conjugation chemistries and purification approach for such nanoparticles it also includes state of art future prospect of nanodrugs suitable for clinical applications there will material on general application potential of these nanoparticles importance of functionalization and common problems faced by non chemists

Advances in Mechanics and Mathematics

2002-08-31

in recent years the field of photovoltaics has become increasingly important due to rising energy demand and climate change while most solar cells are currently composed of crystalline silicon devices with thinner films of inorganic absorber materials might allow production at a greater scale due to their lower materials cost in particular thin films of cuins2 are promising solar absorber materials due to their high efficiencies and low required thicknesses however the fabrication of thin film solar cells currently requires expensive vacuum techniques as an alternative solution based deposition techniques have been proposed as a route to low cost and high throughput electronic device fabrication i have studied how film growth depends on solutuion deposited precursor film quality with the goal of producing large grained films of cuins2 through solution processing in the first approach we used solvothermal decomposition of organometallic precursors at moderate temperatures to produce nanoparticles of cuins2 thin films of these nanoparticles were cast onto molybdenum coated glass and further processed to create cuins2 solar cells we found that performance was dependent on film porosity grain size and stoichiometry of the nanoparticles films with grain sizes of 200nm were attained from which 1 3 efficient solar cells were made in addition we showed that this synthesis could be extended to produce cuins2 nanoparticles with partial substitution of fe zn and ga in the second approach we synthesized an air stable hybrid organometallic nanoparticle ink at room temperature in ambient conditions through a vulcanization reaction this ink could be coated onto substrates in smooth layers and further reactive annealing formed large grained cuins2 films this process was characterized and a correlation between residual carbon and grain growth was found additionally the chemical transformation between precursor layers and final sulfide thin film was analyzed with an emphasis

on the difference between sulfurization and selenization we demonstrated that the sulfurization process was producing morphological defects due to its nucleation limited growth mechanism however it was modified to more closely resemble the diffusion limited selenization mechanism thus producing flat films of cuins2 with grain sizes of 500nm

Silicon Chemical Etching

2012-12-06

presents a thorough overview of perovskite research written by leaders in the field of photovoltaics the use of perovskite structured materials to produce high efficiency solar cells is a subject of growing interest for academic researchers and industry professionals alike due to their excellent light absorption longevity and charge carrier properties perovskite solar cells show great promise as a low cost industry scalable alternative to conventional photovoltaic cells perovskite solar cells materials processes and devices provides an up to date overview of the current state of perovskite solar cell research addressing the key areas in the rapidly growing field this comprehensive volume covers novel materials advanced theory modelling and simulation device physics new processes and the critical issue of solar cell stability contributions by an international panel of researchers highlight both the opportunities and challenges related to perovskite solar cells while offering detailed insights on topics such as the photon recycling processes interfacial properties and charge transfer principles of perovskite based devices examines new compositions hole and electron transport materials lead free materials and 2d and 3d materials covers interface modelling techniques methods for modelling in two and three dimensions and developments beyond shockley queisser theory discusses new fabrication processes such as slot die coating roll processing and vacuum sublimation describes the device physics of perovskite solar cells including recombination kinetics and optical absorption explores innovative approaches to increase the light conversion efficiency of photovoltaic cells perovskite solar cells materials processes and devices is essential reading for all those in the photovoltaic community including materials scientists surface physicists surface chemists solid state physicists solid state chemists and electrical engineers

Colloidal Nanoparticles

2019-03-26

reproduction of the original the organism as a whole from a physicochemical viewpoint by jacques loeb

Proceedings of the Norderney Symposium on Scientific Results of the German Spacelab Mission D1

1987

the 14th conference of the european colloid and interface society ecis 2000 was held in september 2000 in patras greece researchers from the academia and the industrial sector met and presented research work divided in nine thematic sections molecular interactions in thin films polymer surfactant interactions structure and dynamics at interfaces biocolloids colloids in pharmaceutical and biological applications new trends in colloid and interface science techniques rheology self assembly of amphiphiles and measurements in concentrated suspensions selected contributions from these thematic areas are presented in the present volume and show the up today achievements of the colloid and interface science

Solution Processing for Copper Indium Sulfide Solar Cells

2011

through their application in energy efficient and environmentally friendly devices zinc oxide zno and related classes of wide gap semiconductors including gan and sic are revolutionizing numerous areas from lighting energy conversion photovoltaics and communications to biotechnology imaging and medicine with an emphasis on engineering a

Perovskite Solar Cells

2022-03-14

this book presents selected papers from the 26th and 27th eurasia business and economics society ebes conferences held in prague czech republic and bali indonesia while the theoretical and empirical papers gathered here cover diverse areas of economics and finance in various geographic regions the main focus is on the latest research concerning banking and finance as well as empirical studies on emerging economies and public economics the book also includes studies on political economy and regional studies

The Organism as a Whole From a Physicochemical Viewpoint

2020-08-14

reflecting the versatility of the author s science and the depth of his experience application of solution protein chemistry to biotechnology explores key contributions that protein scientists can make in the development of products that are both important and commercially viable and provides them with tools and information required for successful participation one of the of the world s most respected protein researchers roger lundblad does not succumb to the notion that new is always better the application of protein science to the practice of commercial biotechnology is traced to the underlying basic solution protein chemistry it is only by achieving this understanding that the full potential of protein science may be obtained in the development and characterization of the diverse products of modern biotechnology dr lundblad also goes far beyond the biopharmaceutical applications that are often equated with protein science today to demonstrate the field s unique versatility from the making of bread and the invention of adhesives to the production of pharmaceuticals and the development of recombinant dna products in each of these products the role of the protein chemist remains prominent the important point is that classical protein chemistry is a critical part of the practice of biotechnology in the marketplace providing the direction and the foundational work needed by students as well as the details and hundreds of references needed by designers and developers this remarkable work delves into the application of protein science for producing products as diverse as adhesives drug

delivery systems and quality food products explores chemistry of attachment of proteins and peptides to solid surfaces with regard to applications both for the improvement of steel and titanium and in dna and protein microarrays describes the development of bioconjugates used in antibodies offers essential advice on guidelines required for producing licensed biopharmaceutical products while he does include a great deal of material not found in other sources dr lundblad makes a point to separate what is truly new from that which has merely been renamed a reference unlike most scientists and students eager to learn will find a text that is as practical as it is purposeful

Trends in Colloid and Interface Science XV

2003-07-01

the 13th conference of the european colloid and interface society ecis 99 was held in september 1999 in dublin ireland it brought together scientists from academic research and industry within the field of physics and chemistry of colloids and interfaces the conference focused on the following topics surfactant colloids polymer colloids and solid particles food colloids soft matter interfaces biosystems rheology experimental methods in colloid and interface science

Handbook of Zinc Oxide and Related Materials

2012-09-26

introduces a state of the art method for the study of the asymptotic behavior of solutions to evolution partial differential equations written by established mathematicians at the forefront of their field this blend of delicate analysis and broad application is ideal for a course or seminar in asymptotic analysis and nonlinear pdes well organized text with detailed index and bibliography suitable as a course text or reference volume

Eurasian Economic Perspectives

2020-09-28

since the discovery of superconductivity with trans1tton temperatures above 77 k concentrated research activities toward the exploration of practical applica tions of these materials have been carried out currently a remarkable improve ment in superconducting properties has been achieved due to the fine optimization of fabrication processes and this has attracted industrial interest for future applications in the case of ndba cu 0 materials a new pinning mecha 2 3 7 nism was found which enhances the critical current under applied magnetic fields in single crystals of these materials oxygen control results in an increase in the growth rate the metalorganic chemical vapor deposition mocvd film quality has been improved by using a new liquid raw material simultaneously real demands from the viewpoint of the market start to be a motivation force es pecially in electronics application where some products are already being sold at the same time interesting physical properlies have been obtained from a new superconducting single crystal which has a layered perovskite structure without copper in addition various precision measurement techniques have confirmed the d wave mechanism and the existence of intrinsicjosephson junctions in single crystals these new phenomena challenge the existing theoretical models but also open the way for new applications these significant areas of progress in materials science have led high tc super conductivity research into the next phase of activity while fundamental research continues to be very important i sincerely hope that this volume will give further impetus to this development

Application of Solution Protein Chemistry to Biotechnology

2009-05-12

the development of solid state devices began a little more than a century ago with the discovery of the electrical conductivity of ionic solids today solid state technologies form the background of the society in which we live the aim of this book is threefold to present the background physical chemistry on which the technology of semiconductor devices is based secondly to describe specific issues such as the role of defects on the properties of solids and the crucial influence

of surface properties and ultimately to look at the physics and chemistry of semiconductor growth processes both at the bulk and thin film level together with some issues relating to the properties of nano devices divided into five chapters it covers thermodynamics of solids including phases and their properties and structural order point defects in semiconductors extended defects in semiconductors and their interactions with point defects and impurities growth of semiconductor materials physical chemistry of semiconductor materials processing with applications across all solid state technologies the book is useful for advanced students and researchers in materials science physics chemistry electrical and electronic engineering it is also useful for those in the semiconductor industry

Trends in Colloid and Interface Science XIV

2003-07-01

die vorliegenden verhandlungen des iv internationalen kongresses für elektronenmikro skopie der unter den auspizien der international federation 0 electron microscope societies im jahre 1958 in berlin stattfand veranschaulichen in welchem ausmaß die elektronenmikroskopie in den letzten jahren für viele bereiche der forschung an bedeutung gewonnen hat etwa 400 vorträge und einige diskussionsbemerkungen vor mehr als 1000 teilnehmern aus 26 ländern gehalten waren zu veröffentlichen wenn wir der tradition der früheren internationalen kongresse in delft 1949 in paris 1950 und in london 1954 treu bleiben wollten zum ersten male war es nicht möglich alle auf einem internationalen kongreß für elektronenmikroskopie gehaltenen vorträge in einem einzigen band zusammenzufassen der 1 band dieser verhandlungen enthält sowohl die arbeiten zur theorie der elektronenmikroskopie und über die physikalische sowie technische weiterentwicklung der geräte als auch mitteilungen über die anwendung des elek tronenmikroskops zur erforschung kristallographischer und technologischer probleme ein schließlich der präparationstechnik der 11 band bringt die arbeiten über die anwendung des elektronenmikroskops zur lösung biologischer und medizinischer fragestellungen und über die entsprechenden prä parationsverfahren in abweichung von der reihenfolge in der die vorträge auf dem kongreß gehalten wurden waren wir bemüht die mitteilungen nach ihrem sinnzusammenhang in kleinere sachgruppen einzuordnen um ein leichtes und schnelles auffinden zusammengehöriger themen zu ermöglichen die inhaltsverzeichnisse die beiden bänden beigefügt sind vermitteln eine ausreichende Über sicht jeder band enthält ein

alphabetisches mitarbeiterverzeichnis die deutsche gesellschaft für elektronenmikroskopie die veranstaltende organisation begrüßte mit dankbarer anerkennung daß der springer

A Stability Technique for Evolution Partial Differential Equations

2012-12-06

Advances in Superconductivity VIII

2013-11-11

Physical Chemistry of Semiconductor Materials and Processes

2015-10-12

Vierter Internationaler Kongress für Elektronenmikroskopie / Fourth International Conference on Electron Microscopy / Quatrième Congrès International de Microscopie Électronique

2013-03-08

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