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Die Teilchenjäger Yuval Ne'eman 2012-01-28 Wissenschaftler von Weltrang erzählen die spannende Geschichte von der Suche nach den Grundbausteinen der Materie. Sie führen den Leser chronologisch durch die Zeit des Forschens und Entdeckens. Besonders lebendig wird die Geschichte durch viele interessante und heitere Episoden aus dem Wissenschaftsalltag.

Solid State Physics Mohd Abdul Wahab 2005

Principles of Radiation Interaction in Matter and Detection Claude Leroy 2015-12-17 The fourth edition of this book has been widely revised. It includes additional chapters and some sections are complemented with either new ones or an extension of their content. In this latest edition a complete treatment of the physics and properties of semiconductors is presented, covering transport phenomena in semiconductors, scattering mechanisms, radiation effects and displacement damages. Furthermore, this edition presents a comprehensive treatment of the Coulomb scattering on screened nuclear potentials resulting from electrons, protons, light- and heavy-ions — ranging from (very) low up to ultra-relativistic kinetic energies — and allowing one to derive the corresponding NIEL (non-ionizing energy-loss) doses deposited in any material. The contents are organized into two parts: Chapters 1 to 7 cover Particle Interactions and Displacement Damage while the remaining chapters focus on Radiation Environments and Particle Detection. This book can serve as reference for graduate students and final-year undergraduates and also as supplement for courses in particle, astroparticle, space physics and instrumentation. A section of the book is directed toward courses in medical physics. Researchers in experimental particle physics at low, medium, and high energy who are dealing with instrumentation will also find the book useful. Contents: Particle Interactions and Displacement Damage: Introduction Electromagnetic Interaction of Charged Particles in Matter Photon Interaction and Electromagnetic Cascades in Matter Nuclear Interactions in Matter Physics and Properties of Silicon Semiconductor Transport Phenomena in Semiconductors Radiation Effects and Displacement Damage in Semiconductors Radiation Environments and Particle Detection: Radiation Environments and Damage in Semiconductors Scintillating Media and Scintillator Detectors Solid State Detectors Displacement Damages and Interactions in Semiconductor Devices Gas Filled Chambers Principles of Particle Energy Determination Superheated Droplet (Bubble) Detectors and CDM Search Medical Physics Applications Appendices: General Properties and Constants Mathematics and Statistics Readership: Researchers, academics, graduate students and professionals in accelerator, particle, astroparticle, space, applied and medical physics. Key Features: Exceptional large coverage of the different types of detectors used in particle and nuclear physics and their principles of detection Keywords: Radiation Interaction in Matter; Solid State Detectors; Scintillator Detectors; Gas Filled Chamber Detectors; Energy Determination; Dark Matter; Double Beta Decay; Processes of Energy Deposition; Radiation Damages; Medical Physics Applications "The fourth edition has been extensively revised and offers additional chapters. It presents a comprehensive treatment of the Coulomb scattering on screened nuclear potentials resulting from electrons, positrons, protons, light- and heavy-ions and allowing one to derive the corresponding NIEL doses deposited in any material and compound, because of atomic displacements caused by the interaction." Professor Karel Kudela Institute of Experimental Physics

Multifunctional Ferroelectric Materials Dipti Ranjan Sahu 2021-09-08 Ferroelectricity is a well-known phenomenon commonly used in scientific and industrial communities. Ferroelectric materials are the building blocks of different devices and technological innovations. This book presents an overview of the basic phenomenon of ferroelectricity and different ferroelectrics and ferroelectric devices, including their theoretical study, synthesis, characterization, and application. Chapters cover such topics as the basics of ferroelectricity, perovskite ferroelectrics and relaxor ferroelectrics, piezoelectricity, and more.

Elektrizität und Magnetismus Edward M. Purcell 1983

Grundzüge der Umweltphysik J.L. Monteith 2013-03-07 Die Physik der Biosphäre oder Umweltphysik (Environmental Physics) kann man definieren als Physik der Wechselbeziehungen zwischen lebenden Organismen und ihrer Umwelt. Wird ein Umweltphysiker vor ein neues Problem gestellt, so beginnt er in der Regel mit der Messung eines ausgewählten physikalischen Umweltparameters und dessen spezifischem Einfluß auf biologische Objekte.

Nachdem ausreichend MeBdaten gesammelt wurden, kann er versuchen, allgemeine physikalische Prinzipien zu formulieren, denen das unter suchte System unterworfen ist. Diese Prinzipien ermöglichen es ihm, das Verhalten eines S.

Solid State Physics Mohammad Abdul Wahab 2017-04-30

Principles of Radiation Interaction in Matter and Detection Claude Leroy 2011-09-23 This book, like the first and second editions, addresses the fundamental principles of interaction between radiation and matter and the principles of particle detection and detectors in a wide scope of fields, from low to high energy, including space physics and medical environment. It provides abundant information about the processes of electromagnetic and hadronic energy deposition in matter, detecting systems, performance of detectors and their optimization. The third edition includes additional material covering, for instance: mechanisms of energy loss like the inverse Compton scattering, corrections due to the Landau–Pomeranchuk–Migdal effect, an extended relativistic treatment of nucleus–nucleus screened Coulomb scattering, and transport of charged particles inside the heliosphere. Furthermore, the displacement damage (NIEL) in semiconductors has been revisited to account for recent experimental data and more comprehensive comparisons with results previously obtained. This book will be of great use to graduate students and final-year undergraduates as a reference and supplement for courses in particle, astroparticle, space physics and instrumentation. A part of the book is directed toward courses in medical physics. The book can also be used by researchers in

experimental particle physics at low, medium, and high energy who are dealing with instrumentation. Errata(s) Errata Contents: Electromagnetic Interaction of Radiation in Matter Nuclear Interactions in Matter Radiation Environments and Damage in Silicon Semiconductors Scintillating Media and Scintillator Detectors Solid State Detectors Displacement Damage and Particle Interactions in Silicon Devices Gas Filled Chambers Principles of Particle Energy Determination Superheated Droplet (Bubble) Detectors and CDM Search Medical Physics Applications Readership: Researchers, academics, graduate students and professionals in accelerator, particle, astroparticle, space, applied and medical physics. Keywords: Interactions Between Radiation/Particles and Matter; High; Intermediate and Low Energy Particle Physics; Medical Physics; Radiation/Particle Detection; Space Physics; Detectors; Semiconductors; Calorimeters; Chambers; Scintillators; Silicon Pixels; Radiation Damage; Single Event Effects; Solar Cells Key Features: Covers state-of-the-art detection techniques and underlying theories Addresses topics of considerable use for professionals in medical physics, nuclear engineering, and environmental studies Contains an updated reference table set of physical properties

Praktische C++-Programmierung Steve Oualline 2004

Physics Of Amorphous Semiconductors Morigaki Kazuo 1999-04-29 This is a useful textbook for graduate students in the fields of solid state physics and chemistry as well as electronic engineering. Presenting the fundamentals of amorphous semiconductors clearly, it will be essential reading for young scientists intending to develop new preparation techniques for more ideal amorphous semiconductors e.g. a-Si:H, to fabricate stable and efficient solar cells and thin film transistors and new artificial amorphous materials such as multilayers for quantum devices. A large portion is devoted to the latest developments of amorphous semiconductors including electronic properties of a-Si:H, nature of weak bonds and gap states in a-Si:H, mechanisms for light-induced defect creation in a-Si:H and chalcogenides, quantum phenomena in multilayer films.

Klassische Elektrodynamik 2020-05-18

Matter

Elementarteilchenphysik Stephen Gasiorowicz 1975

Fundamentals of Crystallography, Powder X-ray Diffraction, and Transmission Electron Microscopy for Materials Scientists Dong ZhiLi 2022-04-26 The structure–property relationship is a key topic in materials science and engineering. To understand why a material displays certain behaviors, the first step is to resolve its crystal structure and reveal its structure characteristics. Fundamentals of Crystallography, Powder X-ray Diffraction, and Transmission Electron Microscopy for Materials Scientists equips readers with an in-depth understanding of using powder x-ray diffraction and transmission electron microscopy for the analysis of crystal structures. Introduces fundamentals of crystallography Covers XRD of materials, including geometry and intensity of diffracted x-ray beams and experimental methods Describes TEM of materials and includes atomic scattering factors, electron diffraction, and diffraction and phase contrasts Discusses applications of HRTEM in materials research Explains concepts used in XRD and TEM lab training Based on the author's course lecture notes, this text guides materials science and engineering students with minimal reliance on advanced mathematics. It will also appeal to a broad spectrum of readers, including researchers and professionals working in the disciplines of materials science and engineering, applied physics, and chemical engineering.

Principles of Radiation Interaction in Matter and Detection Claude Leroy 2011-09-23 This book, like the first and second editions, addresses the fundamental principles of interaction between radiation and matter and the principles of particle detection and detectors in a wide scope of fields, from low to high energy, including space physics and medical environment. It provides abundant information about the processes of electromagnetic and hadronic energy deposition in matter, detecting systems, performance of detectors and their optimization. The third edition includes additional material covering, for instance: mechanisms of energy loss like the inverse Compton scattering, corrections due to the Landau–Pomeranchuk–Migdal effect, an extended relativistic treatment of nucleus–nucleus screened Coulomb scattering, and transport of charged particles inside the heliosphere. Furthermore, the displacement damage (NIEL) in semiconductors has been revisited to account for recent experimental data and more comprehensive comparisons with results previously obtained. This book will be of great use to graduate students and final-year undergraduates as a reference and supplement for courses in particle, astroparticle, space physics and instrumentation. A part of the book is directed toward courses in medical physics. The book can also be used by researchers in experimental particle physics at low, medium, and high energy who are dealing with instrumentation.

Symmetry Representations of Molecular Vibrations M.A. Wahab 2022-10-22 This book presents a comprehensive theoretical basis of symmetry representations of molecular vibrations, matrix representation of symmetries, and the elements of group theory that are relevant to other symmetry elements/operations, crystallographic and molecular point groups. The book helps understand the reducible and irreducible representations of symmetry matrices and then derive the normal modes of vibration of different molecules by using suitable techniques independently. Targeted to graduate students and researchers, this book aims not only to derive the normal modes of vibration of any given molecule themselves but also compares and verifies them with the experimentally found modes by using IR and Raman-related techniques. For the first time in the crystallographic history, this book presents the group multiplication tables of all 32 point groups in both international and Schoenflies notations.

Einführung in die Festkörperphysik Charles Kittel 1973

Structure of Matter Attilio Rigamonti 2015-06-13 This textbook, now in its third edition, provides a formative introduction to the structure of matter that will serve as a sound basis for students proceeding to more complex courses, thus bridging the gap between elementary physics and topics pertaining to research activities. The focus is deliberately limited to key concepts of atoms, molecules and solids, examining the basic structural aspects without paying detailed attention to the related properties. For many topics the aim has been to start from the beginning and to guide the reader to the threshold of advanced research. This edition includes four new chapters dealing with relevant phases of solid matter (magnetic, electric and superconductive) and the related phase transitions. The book is based on a mixture of theory and solved problems that are integrated into the formal presentation of the arguments. Readers will find it invaluable in enabling them to acquire basic knowledge in the wide and wonderful field of condensed matter and to understand how phenomenological properties originate from the microscopic, quantum features of nature.

Die spezielle Relativitätstheorie Anthony P. French 2013-11-11 Das Education Research Center am M.I. T. (früher: Science Teaching Center) befaßt sich mit Verbesserungen des Lehrplanes, mit dem Lehr- und Lernprozeß sowie mit Unterrichtshilfen, vor allem für die unteren Semester. Das Center wurde im Jahre 1960 vom M.I. T. geschaffen. Sein erster Direktor war der verstorbene Professor Francis L. Friedman. Seit 1961 wurde das Center hauptsächlich von der National Science Foundation unterstützt; großzügige Hilfe wurde auch von den folgenden Fonds gewährt: Kettering Foundation, Shell Companies Foundation, Victoria Foundation, W. T. Grant Foundation und Bing Foundation. Die M.I.T.-Reihe: Einführung ist die Physik (Introductory Physics Series) ist ein direktes Resultat der Arbeit des Centers. Die Reihe wird aus einer Anzahl kurzgefaßter Einführungswerke bestehen, die die wichtigsten Gebiete der Physik behandeln werden. Es soll dabei der wechselseitige Einfluß von Experiment und Intuition bei der Aufstellung physikalischer Theorien betont werden. Die Bücher der Reihe sind als Grundlage für eine Auswahl von Einführungskursen gedacht, beginnend mit den Werken, in denen vor allem die klassische Physik behandelt wird, bis zu jenen, die Themen der Atom- und Quantenphysik behandeln. Die einzelnen Bände sollen in Niveau und Behandlungsweise ihrer Themen zwar ein heitlich sein, sind jedoch nicht als untrennbare Einheit anzusehen; im Gegenteil. Es wurde getrachtet, daß jedes Buch in vernünftigem Maße eine Einheit für sich ist und als individuelle Komponente in den Aufbau eines Kurses einbezogen werden kann.

Teilchen und Kerne Bogdan Povh 2006-07-21 Die Grundidee dieses einführenden Lehrbuchs besteht darin, eine einheitliche Darstellung von Kern- und Teilchenphysik aus experimenteller Sicht zu geben. Die Reduktion der komplex aufgebauten Materie der Atomkerne und Nukleonen auf wenige Grundbausteine und Wechselwirkungen ist die erste Botschaft dieses Buchs. Der zweite Teil, der den Aufbau von Nukleonen und Kernen aus diesen Grundbausteinen beschreibt, macht deutlich, dass Komplexität, die aus der Vielkörperwechselwirkung entsteht, in immer größerem Maß die Gesetzmäßigkeiten der zusammengesetzten Systeme bestimmt. Behandelt wird die Kernmaterie bei hohen Temperaturen und die Rolle von Kern- und Teilchenphysik bei astrophysikalischen Vorgängen. Die neue Auflage bietet stark überarbeitete Übungsaufgaben und eine ganze Reihe von Ergänzungen und Verbesserungen, besonders in der Neutrinophysik und beim doppelten Betazerfall. Das in straffem und klarem Stil abgefasste Lehrbuch eignet sich gut als Begleittext zu den einführenden Vorlesungen an Hochschulen.

Solid State Physics R. J. Singh 2012 Solid state physics forms an important part of the undergraduate syllabi of physics in most of the universities. The existing competing books by Indian authors have too complex technical language which makes them abstractive to Indian students who use English as their secondary language. Solid State Physics is written as per the core module syllabus of the major universities and targets undergraduate B.Sc students. The book uses lecture style in explaining the concepts which would facilitate easy understanding of the concepts. The topics have been dealt with precision and provide adequate knowledge of the subject.

Electromagnetic Theory and Wave Propagation S. N. Ghosh 2002 Although the fundamental concepts of Maxwell remain for the most part unchanged since their inception, electromagnetic theory has continued to evolve, extending,

most significantly, to shorter and shorter wavelengths. This has revealed many of nature's mysteries. And led to a myriad of applications that have literally changed our world. The second edition of Electromagnetic Theory and Wave Propagation begins by presenting the basic concepts of electromagnetic theory, then explores the field's extended areas primarily discovered after World War II. The author elaborates on the work of pioneer investigators, particularly with respect to the identity of light and electromagnetic waves and then derives the fundamental laws of optics from electromagnetic considerations. He has also added several new topics including meteor astronomy, remote sensing and, most notably, discussions on relativistic electrodynamics.

Quantentheorie der Festkörper Charles Kittel 1988

Numerical Problems in Solid State Physics M.A. Wahab 2011 Numerical Problems in Solid State Physics presents a collection of solved examples, unsolved review problems and multiple type of questions on different topics of Solid State Physics/Condensed Matter. The author felt the need of such a book in view of the fact of growing number of competitive examinations at various levels conducted by universities, UGC/CSIR, UPSC, etc. where the questions are generally of numerical in nature. This book contains twelve chapters on different topics of Solid State Physics/ Condensed Matter and dealt with more than seven hundred solved examples and unsolved problems. This book will be extremely helpful to the faculty members associated with the field, the students of B.Sc (H), M.Sc and B. Tech in related subjects and the students appearing in various competitive examinations.

Structural, electrical and magnetic properties of rare earth doped spinel ferrites Dr. Yogiraj Vijaypure 2022-09-13 The first natural magnetic material found to man in pre historic time was magnetite (Fe₃O₄), which is now known as ferrous ferrite. The story of ferrites begins with the search for ferromagnetic material of usual high resistivity to obtain reasonable low eddy current losses. When ferrimagnetic materials placed in alternating field, eddy current generates into them, which dissipates energy. These losses can be reduced by lamination of ferrimagnetic core to restrict eddy current. Since, eddy current losses are inversely proportional to the resistivity; they can be minimized by use of magnetic materials of high resistivity. Ferrites having resistivity of up to 10⁷Ωm as compared to 10⁻⁷Ωm of iron, reduces the eddy current losses in them to a negligible value, even at microwave frequencies.

Solid State Physics David Schmol 2016-07-26 Solid State Physics provides a broad introduction to some of the principal areas of the physical phenomena in solid materials and is aimed broadly at undergraduate students of physics and engineering related subjects. The physical properties of materials are intimately related to the crystalline symmetry of atoms as well as the atomic species present. This includes the electronic, mechanical, magnetic and optical properties of all materials. These subjects are treated in depth and provide the reader with the tools necessary for an understanding of the varied phenomena of materials. Particular emphasis is given to the reaction of materials to specific stimuli, such as the application of electric and magnetic fields. Nanotechnologies are based on the formation of nano-sized elements and structures. The final chapter of the book provides a broad introduction to the topic and uses some of the main tools of solid state physics to explain the behavior of nanomaterials and why they are of importance for future technologies. FEATURES: • Provides a broad introduction to the principal areas of the physical phenomena in solid materials • Includes the electronic, mechanical, magnetic and optical properties of all materials • Explains the behavior of nanomaterials and why they are of importance for future technologies

Symmetriebeziehungen zwischen verwandten Kristallstrukturen Ulrich Müller 2011-10-27 In der Kristallchemie und -physik spielen die Beziehungen zwischen den Symmetriegruppen (Raumgruppen) kristalliner Feststoffe eine besondere Rolle. In Teil 1 dieses Buches sind die mathematischen Hilfsmittel zusammengestellt: die Grundbegriffe der Kristallographie, insbesondere der Symmetriehlehre, die Theorie der kristallographischen Gruppen und die Formalismen der hier gebrauchten kristallographischen Berechnungen. In Teil 2 des Buches wird die Anwendung auf Probleme der Kristallchemie aufgezeigt. Zahlreiche Beispiele illustrieren, wie man die kristallographische Gruppentheorie heranziehen kann, um Verwandtschaften zwischen Kristallstrukturen aufzuzeigen, Ordnung in die Unmenge der Kristallstrukturen zu bringen, mögliche Kristallstrukturtypen vorherzusagen, Phasenumwandlungen zu analysieren, das Phänomen der Domänen- und Zwillingbildung in Kristallen zu verstehen und Fehler bei der Kristallstrukturanalyse zu vermeiden.

Quantenmechanik Walter Greiner 2005

Festkörperphysik David N. Mermin 2013

Statistische Physik und Theorie der Wärme Frederick Reif 1987-01-01

Nanophysik und Nanotechnologie Edward L. Wolf 2015-07-31 Noch hat das Motto "Alles muss kleiner werden" nicht an Faszination verloren. Physikern, Ingenieuren und Medizinern erschließt sich mit der Nanotechnologie eine neue Welt mit faszinierenden Anwendungen. E.L. Wolf, Physik-Professor in Brooklyn, N.Y., schrieb das erste einführende Lehrbuch zu diesem Thema, in dem er die physikalischen Grundlagen ebenso wie die Anwendungsmöglichkeiten der Nanotechnologie diskutiert. Mittlerweile ist es in der 3. Auflage erschienen und liegt jetzt endlich auch auf Deutsch vor. Dieses Lehrbuch bietet eine einzigartige, in sich geschlossene Einführung in die physikalischen Grundlagen und Konzepte der Nanowissenschaften sowie Anwendungen von Nanosystemen. Das Themenspektrum reicht von Nanosystemen über Quanteneffekte und sich selbst organisierende Strukturen bis hin zu Rastersondenmethoden. Besonders die Vorstellung von Nanomaschinen für medizinische Anwendungen ist faszinierend, wenn auch bislang noch nicht praktisch umgesetzt. Der dritten Auflage, auf der diese Übersetzung beruht, wurde ein neuer Abschnitt über Graphen zugefügt. Die Diskussion möglicher Anwendungen in der Energietechnik, Nanoelektronik und Medizin wurde auf neuesten Stand gebracht und wieder aktuelle Beispiele herangezogen, um wichtige Konzepte und Forschungsinstrumente zu illustrieren. Der Autor führt mit diesem Lehrbuch Studenten der Physik, Chemie sowie Ingenieurwissenschaften von den Grundlagen bis auf den Stand der aktuellen Forschung. Die leicht zu lesende Einführung in dieses faszinierende Forschungsgebiet ist geeignet für fortgeschrittene Bachelor- und Masterstudenten mit Vorkenntnissen in Physik und Chemie. Stimmen zur englischen Voraufgabe „Zusammenfassend ist festzustellen, dass Edward L. Wolf trotz der reichlich vorhandenen Literatur zur Nanotechnologie ein individuell gestaltetes einführendes Lehrbuch gelungen ist. Es eignet sich – nicht zuletzt dank der enthaltenen Übungsaufgaben – bestens zur Vorlesungsbegleitung für Studierende der Natur- und Ingenieurwissenschaften sowie auch spezieller nanotechnologisch orientierter Studiengänge.“ Physik Journal „... eine sehr kompakte, lesenswerte und gut verständliche Einführung in die Quantenmechanik sowie ihre Auswirkungen auf die Materialwissenschaften ...“ Chemie Ingenieur Technik

Ökologie Colin R. Townsend 2014-08-12 Diese Softcover-Ausgabe, die ein unveränderter Nachdruck der 2. Auflage (2009) ist, hält das nachgefragte Lehrbuch weiterhin verfügbar. Moderne Ökologie von A bis Z Das renommierte Autorenteam Townsend, Begon und Harper konzentriert sich in diesem Lehrbuch auf die wesentlichen Zusammenhänge in der Ökologie. In anschaulicher, durchgehend vierfarbig gestalteter und leicht verständlicher Form wird ein ausgewogener Überblick vermittelt, der die terrestrische und aquatische Ökologie gleichermaßen berücksichtigt. Für den Praxisbezug wurde großes Gewicht auf die angewandten Aspekte gelegt. Zahlreiche didaktische Elemente und großzügige, farbige Illustrationen erleichtern den Zugang. Es gibt Schlüsselkonzepte am Kapitelanfang, "Fenster" für historische Einschübe, mathematische Hintergründe und ethische Fragen, Zusammenfassungen und Fragen am Kapitelende. Neu in dieser Auflage ist ein eigenes Kapitel zur Evolutionsökologie. Alle anderen Kapitel – insbesondere die zu den angewandten Aspekten – wurden intensiv überarbeitet und hunderte neue Beispiele aufgenommen. Klar und einfach erklärt in diesem Buch.

Symmetry Representations of Molecular Vibrations M.A. Wahab 2022-09-01 This book presents a comprehensive theoretical basis of symmetry representations of molecular vibrations, matrix representation of symmetries, and the elements of group theory that are relevant to other symmetry elements/operations, crystallographic and molecular point groups. The book helps understand the reducible and irreducible representations of symmetry matrices and then derive the normal modes of vibration of different molecules by using suitable techniques independently. Targeted to graduate students and researchers, this book aims not only to derive the normal modes of vibration of any given molecule themselves but also compares and verifies them with the experimentally found modes by using IR and Raman-related techniques. For the first time in the crystallographic history, this book presents the group multiplication tables of all 32 point groups in both international and Schoenflies notations.

Supraleitung, Suprafluidität und Kondensate James F Annett 2011-03-09 Das Buch behandelt drei physikalische Phänomene: die Bose-Einstein-Kondensation, Suprafluidität und Supraleitung. In seinem Aufbau verfolgt es das Ziel, die wesentlichen Konzepte und notwendigen mathematischen Formalismen zu motivieren. Das Buch beginnt mit dem einfachsten der drei Phänomene, der Bose-Einstein-Kondensation. Nach einem Überblick über grundlegenden Eigenschaften idealer Bose-Gase werden Verfahren zum Einfangen und Kühlen von Atomen vorgestellt, um schließlich auf die Realisierung von Bose-Einstein-Kondensaten in verdünnten atomaren Gasen eingehen zu können.

Aufgrund von Zusammenfassungen und weiterführenden Literaturangaben ist das Werk gleichermaßen zum Selbststudium geeignet wie zur vertiefenden Vorlesungsbegleitung. Zahlreiche Übungsaufgaben, teils mit Lösungen und Hinweisen, ermöglichen die unmittelbare Überprüfung des Gelernten.

Numerical Problems in Crystallography M. A. Wahab 2021-01-22 This book aims at enhancing the understanding of topics in crystallography through solving numerical problems. Designed into nine chapters on major topics in crystallography, the book deals with more than 600 carefully selected solved examples, problems, and multiple-choice questions. Unit cell composition, construction and calculations, Miller indices, structure factor calculations, and X-

ray diffraction methods are some of the many useful topics discussed in this book. Each chapter begins with a brief theoretical explanation of the topic followed by solved numerical examples for further clarity on the subject. The topic "crystallography" is interdisciplinary in nature. Its rudimentary knowledge, therefore, is essential to the beginners in physics, chemistry, mathematics, molecular biology, geology, metallurgy, and particularly materials science and mineralogy. This book also is of immense value to senior undergraduate and graduate students of physics, chemistry, and other basic sciences.

Einführung in die Festkörperphysik Charles Kittel 1989

Cases on Interactive Technology Environments and Transnational Collaboration: Concerns and Perspectives Mukerji, Siran 2010-05-31 Technology is essential for access to learning and development of a knowledge society. Cases on Interactive Technology Environments and Transnational Collaboration: Concerns and Perspectives provides a comparative and comprehensive analysis of technologically enabled educational environments and various issues concerning education and collaborations across the world while also focusing on best practices and experiences from a varied range of countries.

Elektrodynamik David J. Griffiths 2018-08-10