Quantum Mechanics By Gupta Kumar Ranguy

GUIDE FOR THE PERPLEXED
Statistical Mechanics of Learning
The Universe
The New Quantum Universe
Hybrid Polymer Composite Materials
Elementary Principles in Statistical Mechanics
Extremes in Atmospheric Processes and Phenomenon: Assessment, Impacts and Mitigation
Wavelet Methods for Solving Partial Differential Equations and Fractional Differential Equations
Machine Learning Meets Quantum Physics
Nonperturbative Quantum Field Theory
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Radar Remote Sensing
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LECTURE NOTES ON PHYSICS (Second Edition)
The Fundamental Principles of Quantum Mechanics
Fundamentals of Quantum Mechanics
An Introductory Course of Particle Physics
Quantum Mechanics
Atomic And Molecular Spectroscopy
Solid State Physics and Electronics
QUANTUM MECHANICS & SPECTROSCOPY (English Edition) (Physics Book) Paper-II
Original Science of the Universe Vol. 1: Complete Scientific Solutions
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Statistical Mechanics
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Elementary Statistical Mechanics
Holistic Approach to Quantum Cryptography in Cyber Security
INTRODUCTION TO SOLID STATE PHYSICS, Second Edition
Quantum
Quantum Mechanics
Quantum Mechanics for Nanostructures
Many-body Physics, Topology And Geometry
Introduction to Quantum Mechanics
CLASSICAL MECHANICS
QUANTAM MECHANICS
Quantum Mechanics
Progress in Optics

JOHANNA JAYCE

GUIDE FOR THE PERPLEXED CRC Press
For graduate students unfamiliar with particle physics, An Introductory Course of Particle Physics teaches the basic techniques and fundamental theories related to the subject. It gives students the competence to work out various properties of fundamental particles, such as scattering cross-section and lifetime. The book also gives a lucid summary of the main ideas involved. In giving students a taste of fundamental interactions among elementary particles, the author does not assume any prior knowledge of quantum field theory. He presents a brief introduction that supplies students with the necessary tools without seriously getting into the nitty-gritty of quantum field theory, and then explores advanced topics in detail. The book then discusses group theory, and in this case the author assumes that students are familiar with the basic definitions and properties of a group, and even SU(2) and its representations. With this foundation established, he goes on to discuss representations of continuous groups bigger than SU(2) in detail. The material is presented at a level that M.Sc. and Ph.D. students can understand, with exercises throughout the text at points at which performing the exercises would be most beneficial. Anyone teaching a one-semester course will probably have to choose from the topics covered, because this text also contains advanced material that might not be covered within a semester due to lack of time. Thus it provides the teaching tool with the flexibility to customize the course to suit your needs.
Statistical Mechanics of Learning Blue Rose Publishers
Presenting fundamental concepts of quantum mechanics in a comprehensive manner with the help of solved problems.
The Universe Weidenfeld & Nicolson
This Comprehensive Text Clearly Explains Quantum Theory, Wave Mechanics, Structure Of Atoms And Molecules And Spectroscopy.The Book Is In Three Parts, Namely, Wave Mechanics; Structure Of Atoms And Molecules; And Spectroscopy And Resonance Techniques.In A Simple And Systematic Manner, The Book Explains The Quantum Mechanical Approach To Structure, Along With The Basic Principles And Application Of Spectroscopic Methods For Molecular Structure Determination.The Book Also Incorporates The Electric And Magnetic Properties Of Matter, The Symmetry, Group Theory And Its Applications.Each Chapter Includes Many Solved Examples And Problems For A Better Understanding Of The Subject.With Its Exhaustive Coverage And Systematic Approach, This Is An Invaluable Text For B.Sc. (Hons.) And M.Sc. Chemistry Students.
The New Quantum Universe Academic Press
Designing molecules and materials with desired properties is an important prerequisite for advancing technology in our modern societies. This requires both the ability to calculate accurate microscopic properties, such as energies, forces and electrostatic multipoles of specific configurations, as well as efficient sampling of potential energy surfaces to obtain corresponding macroscopic properties. Tools that can provide this are accurate first-principles calculations rooted in quantum mechanics, and statistical mechanics, respectively. Unfortunately, they come at a high computational cost that prohibits calculations for large systems and long time-scales, thus presenting a severe bottleneck both for searching the vast chemical compound space and the stupendously many dynamical configurations that a molecule can assume. To overcome this challenge, recently there have been increased efforts to accelerate quantum simulations with machine learning (ML). This emerging interdisciplinary community encompasses chemists, material scientists, physicists, mathematicians and computer scientists, joining forces to contribute to the exciting hot topic of progressing machine learning and AI for molecules and materials. The book that has emerged from a series of workshops provides a snapshot of this rapidly developing field. It contains tutorial material explaining the relevant foundations needed in chemistry, physics as well as machine learning to give an easy starting point for interested readers. In addition, a number of research papers defining the current state-of-the-art are included. The book has five parts (Fundamentals, Incorporating Prior Knowledge, Deep Learning of Atomistic Representations, Atomistic Simulations and Discovery and Design), each prefaced by editorial commentary that puts the respective parts into a broader scientific context.
Hybrid Polymer Composite Materials Springer Science & Business Media
Hybrid Polymer Composite Materials: Processing presents the latest on these composite materials that can best be described as materials that are comprised of synthetic polymers and biological/inorganic/organic derived constituents. The combination of unique properties that emerge as a consequence of the particular arrangement and interactions between the different constituents provides immense opportunities for advanced material technologies. This series of four volumes brings an interdisciplinary effort to accomplish a more detailed understanding of the interplay between synthesis, structure, characterization, processing, applications, and performance of these advanced materials, with this volume focusing on their processing. - Provides a clear understanding of the present state-of-the-art and the growing utility of hybrid polymer composite materials - Includes contributions from world renowned experts and discusses the combination of different kinds of materials procured from diverse resources - Discusses their synthesis, chemistry, processing, fundamental properties, and applications - Provides insights on the potential of hybrid polymer composite materials for advanced applications
Elementary Principles in Statistical Mechanics PHI Learning Pvt. Ltd.
This well-organized and comprehensive text gives an in-depth study of the fundamental principles of Quantum Mechanics in one single volume. Appropriate for the postgraduate courses, the book deals with both relativistic and non-relativistic quantum mechanics. The distinguishing features of the text are its logical and systematic coverage of the fundamental principles and the applications of the theory, besides presentation of examples from the areas of atomic and molecular physics, solid state physics and nuclear physics. The mathematical treatment is rigorous and thorough and the text is supplemented with numerous problems, with hints provided for the difficult ones. These features make the text handy for self-study as well as for teaching.
Extremes in Atmospheric Processes and Phenomenon: Assessment, Impacts and Mitigation Cambridge University Press
The subject of quantum mechanics has grown tremendously during the last century and revealed many hidden secrets of nature. It has enabled mankind move towards understanding the nature of matter and radiation. However, for the students its concepts have remained a problem to understand. Having deeply observed this situation and having himself experienced it, the author has presented the subject in the style of classroom teaching that reveals its marvels and the wide scope it offers. The book focuses on the evolution of the subject, the underlying ideas, the concepts, the laws and the mathematical apparatus for the formulation of the subject in a systematic and comprehensible manner. Each chapter is followed by a number of solved examples and problems, which are chosen so as to serve as guidelines in the application of the basic principles of quantum mechanics and to assist in solving more complex problems. Key Features • Written to develop passion for quantum mechanics; thus makes this tough subject look simple • Showcases the marvels and scope of quantum mechanics • Meets the syllabi requirements of all undergraduate courses
Wavelet Methods for Solving Partial Differential Equations and Fractional Differential Equations CRC Press
QUANTUM MECHANICS & SPECTROSCOPY e-Book in English Language for B.Sc 5th Semester UP State Universities By Thakur publication.
Machine Learning Meets Quantum Physics World Scientific
During the past 15 years, quantum field theory and classical

statistical mechanics have merged into a single field, and the need for nonperturbative methods for the description of critical phenomena in statistical mechanics as well as for problems in elementary particle physics are generally acknowledged. Such methods formed the central theme of the 1987 Cargese Advanced Study Institut. e on "Nonpert. urbat. ive Quantum Field Theory." The use of conformal symmet. ry has been of central interest in recent years, and was a main subject at. t. he ASI. Conformal invariant quantum field theory describes statistical mechanical systems exactly at a critical point, and can be analysed to a remarkable ext. ent. by group t. heoretical methods. Very strong results have been obtained for 2-dimensional systems. Conformal field theory is also the basis of string theory, which offers some hope of providing a unified t. heory of all interactions between elementary particles. Accordingly, a number of lectures and seminars were presented on these two topics. After syst. ematic introductory lectures, conformal field theory on Riemann surfaces, orbifolds, sigma models, and application of loop group theory and Grassmannians were discussed, and some ideas on modular geometry were presented. Other lectures combined' traditional techniques of constructive quant. um field theory with new methods such as the use of index-t. heorems and infinite dimensional (Kac Moody) symmetry groups. The problems encountered in a quantum mechanical description of black holes were discussed in detail.
Nonperturbative Quantum Field Theory New Age International
This book reviews recent developments in the field of superheavy elements and the related phenomena of fission, cluster radioactivity, and drip line physics. Both the experimental and theoretical aspects are dealt with in detail. For the production of new elements in the laboratory, the process of cold compound nucleus formation is found to be most favorable both theoretically and experimentally. However, experimentally, hot fusion of nuclei has also been used. Both the physical and chemical methods of synthesizing new elements are discussed. The theoretical approaches considered here are those of the quantum-mechanical fragmentation theory, the self-consistent Hartree-Fock theory, and the relativistic mean field theory. Fission, a process inverse to the fusion of two nuclei, is also observed to be most favourably a cold phenomenon. Other important results are bi-modal fission and high n-multiplicity fission, which leads to the hyperdeformed scission mode. Cluster radioactivity is discussed both as a heavy cluster emission process and as super-asymmetric fission. The theory as well as the present experimental status are reviewed. Physics at drip lines is interesting not only for their structural properties but also for their use in the fusion of two nuclei; both aspects are discussed.
Heavy Elements And Related New Phenomena (In 2 Volumes) S. Chand Publishing
A book for undergraduate and graduate students of physics, covering foundational details along with advanced topics of quantum mechanics.
Radar Remote Sensing Springer Science & Business Media
The Book Is Written Based On Author'S Over Twenty Years Experience Of Teaching Quantum Mechanics To Graduate Students In Physics. It Contains The Portion To Be Covered At Undergraduate Level And Comprises A Two Semester Course For Graduate (Physics) Students. End Of Almost Each Chapter Contains A Problem Set. Most Of The Problems In The Set Are Solved So That Students Can Have An In Depth Knowledge Of The Subject. It Is Strictly In Accordance With The Author'S Conception That No One Can Learn A Subject Without Solving Problems. To Understand The Topics Covered In This Book, Consultation Of No Other Book On Quantum Mechanics Is Necessary. Of Course A Thorough Knowledge Of Vectors And Special Functions Is Assumed. Though A Large Number Of Books Are Available In The Subject, None Of Them Can Be Accepted As A Single Textbook.
Problems and Solutions on Quantum Mechanics Cambridge University Press
The Progress in Optics series contains more than 300 review articles by distinguished research workers, which have become permanent records for many important developments, helping optical scientists and optical engineers stay abreast of their fields. - Comprehensive, in-depth reviews - Edited by the leading authority in the field
Science Reporter New Age International
The author of the world wide best-seller, Small Is Beautiful, now tackles the subject of Man, the World, and the Meaning of Living. Schumacher writes about man's relation to the world. man has obligations -- to other men, to the earth, to progress and technology, but most importantly himself. If man can fulfill these obligations, then and only then can he enjoy a real relationship with the world, then and only then can he know the meaning of living. Schumacher says we need maps: a "map of knowledge" and a "map of living." The concern of the mapmaker--in this instance, Schumacher--is to find for everything it's proper place. Things out of place tend to get lost; they become invisible and there proper places end to be filled by other things that ought not be there at all and therefore serve to mislead. A Guide for the Perplexed teaches us to be our own map makers. This constantly surprising, always stimulating book will be welcomed by a large audience, including the many new fans who believe strongly in what Schumacher has to say.
Quantum Mechanics Cambridge University Press
The book explains concepts and ideas of mathematics and physics that are relevant for advanced students and researchers of condensed matter physics. With this aim, a brief intuitive introduction to many-body theory is given as a powerful qualitative tool for understanding complex systems. The important emergent concept of a quasiparticle is then introduced as a way to reduce a many-body problem to a single particle quantum problem. Examples of quasiparticles in graphene, superconductors, superfluids and in a topological insulator on a superconductor are discussed.The mathematical idea of self-adjoint extension, which allows short distance information to be included in an effective long distance theory through boundary conditions, is introduced through simple examples and then applied extensively to analyse and predict new physical consequences for graphene.The mathematical discipline of topology is introduced in an intuitive way and is then combined with the methods of differential geometry to show how the emergence of gapless states can be understood. Practical ways of carrying out topological calculations are described.
Problems and Solutions on Electromagnetism PHI Learning Pvt. Ltd.
"May there be another suitable way to describe the beginning of the Universe? To discover the suitable answers, we must search out something more. Therefore, let us review again according to our modern laws and theories of physics. In this book, the assumptions for the beginning of the Universe are based on General Theory of Relativity & Quantum Mechanics along with some other laws of physics. Such assumptions are not supporting any singularity as it has accepted in the Big Bang etc theories. The remarkable fact is that the concepted assumptions (in this book) are solving not only the formation and evolution of the universal cosmic bodies but also giving suitable answers for all probable consequences of the planetarian etc constructions, mostly of the Earth."
LECTURE NOTES ON PHYSICS (Second Edition) World Scientific
From Schrodinger's cat to Heisenberg's uncertainty principle, this book untangles the weirdness of the quantum world. Quantum mechanics underpins modern science and provides us with a blueprint for reality itself. And yet it has been said that if you're not shocked by it, you don't understand it. But is quantum physics really so unknowable? Is reality really so strange? And just how can cats be half-alive and half-dead at the same time? Our journey into the quantum begins with nature's own conjuring trick, in which we discover that atoms -- contrary to the rules of everyday experience -- can exist in two locations at once. To understand this we travel back to the dawn of the twentieth century and witness the birth of quantum theory, which over the next one hundred years was to overthrow so many of our deeply held notions about the nature of our universe. Scientists and philosophers have been left grappling with its implications every since.
The Fundamental Principles of Quantum Mechanics Thakur Publication Private Limited
Introduction to Solid State Physics, in its Second Edition, provides a comprehensive introduction to the physical properties of crystalline solids. It explains the structure of crystals, theory of crystal diffraction and the reciprocal lattice. As the book advances, it describes different kinds of imperfections in crystals, bonding in solids, and vibration in one-dimensional monoatomic and diatomic linear lattice. Different theories of specific heat, thermal conductivity of solids and lattice thermal conductivity are thoroughly dealt with. Coverage also includes the free electron theory, band theory of solids and semiconductors. In addition, the book also describes in detail the magnetic properties of solids and superconductivity. Finally, the book includes discussions on lasers, nanotechnology and the basic principles of fibre optics and holography. Some new topics like cellular method, quantum Hall effect, de Haas van Alphen effect, Pauli paramagnetism and semiconductor laser have been added in the present edition of the book to make it more useful for the students. The book is designed to meet the requirements of undergraduate and postgraduate students of physics for their courses in solid state physics, condensed matter physics and material science. KEY FEATURES • Puts a conceptual emphasis on the subject. • Includes numerous diagrams and figures to clarify the concepts. • Gives step-by-step explanations of theories. • Provides chapter-end exercises to test the knowledge acquired.
Fundamentals of Quantum Mechanics PHI Learning Pvt. Ltd.
The advances in technology, engineering and science are necessary for better and sustainable life. It is not only beneficial for human growth but equally important for all the living and non living matters on the planet. Hence it is imperative to come togather and share the knowledge, innovations and developments in the technology and science happening around. The objective of 1st International Conference on “Recent Advances in Science, Engineering & Technology” (ICRASET-2023) was to provide platform to share various hypotheses, conclusions, and discoveries from students, researchers, professors, and industry experts. The conference was associated with the knowledge partners like ASM International, IEEE, IETE, ISTE, CSI and IE
An Introductory Course of Particle Physics CRC Press
This new book discusses the concepts while also highlighting the challenges in the field of quantum cryptography and also covering cryptographic techniques and cyber security techniques, in a single volume. It comprehensively covers important topics in the field of quantum cryptography with applications, including quantum key distribution, position-based quantum cryptography, quantum teleportation, quantum e-commerce, quantum cloning, cyber security techniques’ architectures and design, cyber security techniques management, software-defined networks, and cyber security techniques for 5G communication. The text also discusses the security of practical quantum key distribution systems, applications and algorithms developed for quantum cryptography, as well as cyber security through quantum computing and quantum cryptography. The text will be beneficial for graduate students, academic researchers, and professionals working in the fields of electrical engineering, electronics and communications engineering, computer science, and information technology.