

Nuclear Physics *Lilley*

The past decade has seen a remarkable growth in the extent and variety of experiments being done on nuclear reactions. The purpose of this book is to understand the results of the measurements gained in these experiments rather than to describe how they are made. A straightforward presentation of the broad concepts underlying radiological physics and radiation dosimetry for the graduate-

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level student. Covers photon and neutron attenuation, radiation and charged particle equilibrium, interactions of photons and charged particles with matter, radiotherapy dosimetry, as well as photographic, calorimetric, chemical, and thermoluminescence dosimetry. Includes many new derivations, such as Kramers X-ray spectrum, as well as topics that have not been thoroughly analyzed in other texts, such as broad-beam attenuation and geometrics, and the reciprocity theorem. Subjects are layed out in a

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logical sequence, making the topics easier for students to follow. Supplemented with numerous diagrams and tables.

'Physics of Cancer' emphasizes a novel biophysical-based view on cancer disease and metastasis highlighting the functional role of mechanical properties of cells while describing the biological state of cancer. Originating in part from the author's own courses on tumor biology and cellular biophysics, this book is suitable for students and researchers in this dynamic

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interdisciplinary field, be they from a physical, biological or medical sciences background. Do the movements of animals, including humans, follow patterns that can be described quantitatively by simple laws of motion? If so, then why? These questions have attracted the attention of scientists in many disciplines, and stimulated debates ranging from ecological matters to queries such as 'how can there be free will if one follows a law of motion?' This is the first book on this rapidly evolving subject, introducing random searches

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and foraging in a way that can be understood by readers without a previous background on the subject. It reviews theory as well as experiment, addresses open problems and perspectives, and discusses applications ranging from the colonization of Madagascar by Austronesians to the diffusion of genetically modified crops. The book will interest physicists working in the field of anomalous diffusion and movement ecology as well as ecologists already familiar with the concepts and methods of statistical physics.

Modern Nuclear Chemistry
The Physics of Foraging
Physics of Cancer
From Nuclear Structure to
Cosmology
Structure Of The Nucleus

' The original edition of Introduction to Nuclear and Particle Physics was used with great success for single-semester courses on nuclear and particle physics offered by American and Canadian universities at the undergraduate level. It was also translated into German, and used overseas. Being less formal but well-written, this book is a good vehicle for learning the more intuitive rather than formal aspects of the subject. It is therefore of value to scientists with a minimal background in quantum mechanics, but is sufficiently

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substantive to have been recommended for graduate students interested in the fields covered in the text. In the second edition, the material begins with an exceptionally clear development of Rutherford scattering and, in the four following chapters, discusses sundry phenomenological issues concerning nuclear properties and structure, and general applications of radioactivity and of the nuclear force. This is followed by two chapters dealing with interactions of particles in matter, and how these characteristics are used to detect and identify such particles. A chapter on accelerators rounds out the experimental aspects of the field. The final seven chapters deal with elementary-particle phenomena, both before and after the realization of the Standard Model. This is interspersed with discussion of

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symmetries in classical physics and in the quantum domain, bringing into full focus the issues concerning CP violation, isotopic spin, and other symmetries. The final three chapters are devoted to the Standard Model and to possibly new physics beyond it, emphasizing unification of forces, supersymmetry, and other exciting areas of current research. The book contains several appendices on related subjects, such as special relativity, the nature of symmetry groups, etc. There are also many examples and problems in the text that are of value in gauging the reader's understanding of the material.

Contents: Rutherford Scattering
Nuclear Phenomenology
Nuclear Models
Nuclear Radiation
Applications of Nuclear Physics
Energy Deposition in Media
Particle

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Detection Accelerators Properties and Interactions of Elementary Particles Symmetries Discrete Transformations Neutral Kaons, Oscillations, and CP Violation Formulation of the Standard Model Standard Model and Confrontation with Data Beyond the Standard Model Readership: Advanced undergraduates and researchers in nuclear and particle physics. Keywords: Rutherford Scattering; Nuclear Properties; Nuclear Structure; Elementary Particles; Sub-Structure of Particles; Particle Detectors; Interactions in Matter; The Standard Model; Symmetries of Nature; Theories of Nuclear and Particle Structure; Radioactivity; Supersymmetry Reviews: The book by Das and Ferbel is particularly suited as a basis for a one-semester course on

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both subjects since it contains a very concise introduction to those topics and I like very much the outline and contents of this book. Kay Konigsmann Universität Freiburg, Germany The book provides an introduction to the subject very well suited for the introductory course for physics majors. Presentation is very clear and nicely balances the issues of nuclear and particle physics, exposes both theoretical ideas and modern experimental methods. Presentation is also very economic and one can cover most of the book in a one-semester course. In the second edition, the authors updated the contents to reflect the very recent developments in the theory and experiment. They managed to do it without substantial increase of the size of the book. I used the first edition several times to teach the

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course [Introduction to Subatomic Physics] and I am looking forward to use this new edition to teach the course next year. Professor Mark Strikman Pennsylvania State University, USA [This book can be recommended to those who find elementary particle physics of absorbing interest.] Contemporary Physics '

A graduate-level one-volume textbook and reference work on the structure and physics of atomic nuclei.

Throughout this book the underlying emphasis is on how a nucleus is constituted through the interaction between the nucleons. The book is structured into three parts: the first part contains a detailed treatment of the two-nucleon force and of basic model-independent nuclear properties the second part discusses the

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experimental results of nuclear models and their bases in fundamental theory the third part deals in some detail with alpha-decay and fission.

This title provides the latest information on nuclear physics. Based on a course entitled Applications of Nuclear Physics. Written from an experimental point of view this text is broadly divided into two parts, firstly a general introduction to Nuclear Physics and secondly its applications.

- * Includes chapters on practical examples and problems
- * Contains hints to solving problems which are included in the appendix
- * Avoids complex and extensive mathematical treatments
- * A modern approach to nuclear physics, covering the basic theory, but emphasising the many and important applications

Nuclear physics began long before the

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identification of fundamental particles, with J. J. Thomson's discovery of the electron at the end of the 19th century, which implied the existence of a positive charge in the atom to make it neutral. In this Very Short Introduction Frank Close gives an account of how this area of physics has progressed, including the recognition of how heavy nuclei are built up in the cores of stars and in supernovae, the identification of quarks and gluons, and the development of quantum chromodynamics (QCD). Exploring key concepts such as the stability of different configurations of protons and neutrons in nuclei, Frank Close shows how nuclear physics brings the physics of the stars to Earth and provides us with important applications, particularly in medicine.

ABOUT THE SERIES: The Very Short

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Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Vibrations and Waves

Nuclear Physics: Experimental And Theoretical

Fundamentals in Nuclear Physics

Beyond MFN

SU(3) Symmetry in Atomic Nuclei

Drawing on previously unpublished Russian archival materials, this book is the first detailed history and current analysis of the North Korean nuclear program. The

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contributors discuss Soviet-North Korean nuclear relations, economic and military aspects of the nuclear program, the nuclear energy sector, North Korea's negotiations with the Korean Peninsula Energy Development Organization, cooperative security, and U.S. policy. Unique in its focus on North Korean attitudes and perspectives, *The North Korean Nuclear Program* also includes Russian interviews with North Korean officials.

Describes how the processes in stars which produce the chemical elements for planets and life may be reproduced in laboratories. This comprehensive volume offers readers a progressive and highly

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detailed introduction to the complex behavior of neutrons in general, and in the context of nuclear power generation. A compendium and handbook for nuclear engineers, a source of teaching material for academic lecturers as well as a graduate text for advanced students and other non-experts wishing to enter this field, it is based on the author's teaching and research experience and his recognized expertise in nuclear safety. After recapping a number of points in nuclear physics, placing the theoretical notions in their historical context, the book successively reveals the latest quantitative theories concerning:

- The slowing-down

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of neutrons in matter • The charged particles and electromagnetic rays • The calculation scheme, especially the simplification hypothesis • The concept of criticality based on chain reactions • The theory of homogeneous and heterogeneous reactors • The problem of self-shielding • The theory of the nuclear reflector, a subject largely ignored in literature • The computational methods in transport and diffusion theories
Complemented by more than 400 bibliographical references, some of which are commented and annotated, and augmented by an appendix on the history of reactor physics at EDF (Electricité De

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France), this book is the most comprehensive and up-to-date introduction to and reference resource in neutronics and reactor theory.

An accessible introduction to nuclear and particle physics with equal coverage of both topics, this text covers all the standard topics in particle and nuclear physics thoroughly and provides a few extras, including chapters on experimental methods; applications of nuclear physics including fission, fusion and biomedical applications; and unsolved problems for the future. It includes basic concepts and theory combined with current and future applications. An excellent resource

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for physics and astronomy undergraduates in higher-level courses, this text also serves well as a general reference for graduate studies.

Quantities, Units and Symbols in
Physical Chemistry

Nuclear Structure

Introduction to Atomic and Nuclear
Physics

Theoretical Nuclear Physics

Volume 15

An essential introduction to particle physics, with coverage ranging from the basics through to the very latest developments, in an accessible and carefully structured text. Particle Physics: Third Edition is a revision of a

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highly regarded introduction to particle physics. In its two previous editions this book has proved to be an accessible and balanced introduction to modern particle physics, suitable for those students needed a more comprehensive introduction to the subject than provided by the 'compendium' style physics books. In the Third Edition the standard model of particle physics is carefully developed whilst unnecessary mathematical formalism is avoided where possible. Emphasis is placed on the interpretation of experimental data in terms of the basic properties of quarks and leptons.

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One of the major developments of the past decade has been the establishing of the existence of neutrino oscillations. This will have a profound effect on the plans of experimentalists. This latest edition brings the text fully up-to-date, and includes new sections on neutrino physics, as well as expanded coverage of detectors, such as the LHC detector. End of chapter problems with a full set of hints for their solutions provided at the end of the book. An accessible and carefully structured introduction to this demanding subject. Includes more advanced material in optional ‘starred’ sections.

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Coverage of the foundations of the subject, as well as the very latest developments.

Examines the social, cultural and ethical dimensions of heritage research and practice, and the underlying international politics of protecting cultural and natural resources around the globe.

Focuses on ethnographic and embedded perspectives, as well as a commitment to ethical engagement Appeals to a broad audience, from archaeologists to heritage professionals, museum curators to the general public The contributors comprise an outstanding team, representing some of the most prominent

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scholars in this broad field, with a combination of senior and emerging scholars, and an emphasis on international contributions

**to Atomic and Nuclear Physics
Aerial view of the National
Accelerator Laboratory, Batavia,
Illinois. (Photograph courtesy of
NAL.) Introduction to Atomic and
Nuclear Physics HENRY SEMAT
Professor Emeritus The City
College of the City University of
New York JOHN R. ALBRIGHT
The Florida State University
FIFTH EDITION LONDON
NEW YORK CHAPMAN AND
HALL First edition 1939 Fifth
edition, first published in the**

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The present edition of the book is revised as per the UGC syllabus. Questions and problems at the end of each chapter have been up-dated. Many new solved examples are included in this edition. Certain topic have been added so that students from some universities where the syllabus has been modified and upgraded may benefit. Besides being a text book we hope that this benifit students appearing at the IAS, AMIE and

**other Competitive Examinations.
Principles, Calculation and
Applications of Low-Energy
Reactions**

**Nuclear Radiation Detectors
Advances in Nuclear Physics**

**NUCLEAR PHYSICS:
PRINCIPLES AND
APPLICATIONS**

**The North Korean Nuclear
Program**

Nuclear Physics in a
Nutshell provides a
clear, concise, and up-
to-date overview of the
atomic nucleus and the
theories that seek to
explain it. Bringing
together a systematic

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explanation of hadrons, nuclei, and stars for the first time in one volume, Carlos A. Bertulani provides the core material needed by graduate and advanced undergraduate students of physics to acquire a solid understanding of nuclear and particle science. Nuclear Physics in a Nutshell is the definitive new resource for anyone considering a career in this dynamic field. The book opens by setting nuclear physics in the context of

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elementary particle physics and then shows how simple models can provide an understanding of the properties of nuclei, both in their ground states and excited states, and also of the nature of nuclear reactions. It then describes: nuclear constituents and their characteristics; nuclear interactions; nuclear structure, including the liquid-drop model approach, and the nuclear shell model; and recent developments such

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as the nuclear mean-field and the nuclear physics of very light nuclei, nuclear reactions with unstable nuclear beams, and the role of nuclear physics in energy production and nucleosynthesis in stars. Throughout, discussions of theory are reinforced with examples that provide applications, thus aiding students in their reading and analysis of current literature. Each chapter closes with problems, and appendixes

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address supporting
technical topics.

"Analytic Insights into
Intermediate-Energy
Hadron-Nucleus
Scattering," by R. D.
Amado, presents a review
of optical diffraction
leading into discussions
of elastic scattering,
single- and multistep
inelastic scattering,
spin observables, and
directions indicated for
further research.

"Recent Developments in
Quasi-Free Nucleon-
Nucleon Scattering," by
P. Kitching, W. J.

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McDonald, Th. A. J.
Maris, and C. A. Z.
Vasconcelos, opens with a comprehensive review of the theory, going on to detail frontier research advances in spin dependence in (p, 2p) scattering, isospin dependence, and other quasi-free reactions. The final chapter, "Energetic Particle Emission in Nuclear Reactions" by D. H. Baal, explores new findings regarding direct interactions in

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the nucleus, thermalization and multiple scattering in nucleon emission, light fragment formation, and production of intermediate-mass fragments. A valuable and instructive trio of papers, Volume 15 of *Advances in Nuclear Physics* will be of interest to nonspecialists as well as specialists in the fields of nuclear physics, high-energy physics, and theoretical physics. J. W. NEGELE E.

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VoGT ix CONTENTS Chapter
1 ANALYTIC INSIGHTS INTO
INTERMEDIATE-ENERGY
HADRON-NUCLEUS

SCATTERING R. D. Amado

I. Introduction

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The first IUPAC Manual
of Symbols and
Terminology for
Physicochemical
Quantities and Units

(the Green Book) of
which this is the direct
successor, was published
in 1969, with the object
of 'securing clarity and
precision, and wider

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agreement in the use of symbols, by chemists in different countries, among physicists, chemists and engineers, and by editors of scientific journals'. Subsequent revisions have taken account of many developments in the field, culminating in the major extension and revision represented by the 1988 edition under the simplified title Quantities, Units and Symbols in Physical Chemistry. This 2007, Third Edition, is a

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further revision of the material which reflects the experience of the contributors with the previous editions. The book has been systematically brought up to date and new sections have been added. It strives to improve the exchange of scientific information among the readers in different disciplines and across different nations. In a rapidly expanding volume of scientific literature where each discipline

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has a tendency to retreat into its own jargon this book attempts to provide a readable compilation of widely used terms and symbols from many sources together with brief understandable definitions. This is the definitive guide for scientists and organizations working across a multitude of disciplines requiring internationally approved nomenclature. The M.I.T. Introductory Physics Series is the

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result of a program of careful study, planning, and development that began in 1960. The Education Research Center at the Massachusetts Institute of Technology (formerly the Science Teaching Center) was established to study the process of instruction, aids thereto, and the learning process itself, with special reference to science teaching at the university level. Generous support from a number of foundations

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provided the means for assembling and maintaining an experienced staff to cooperate with members of the Institute's Physics Department in the examination, improvement, and development of physics curriculum materials for students planning careers in the sciences. After careful analysis of objectives and the problems involved, preliminary versions of textbooks were prepared, tested through classroom

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use at M.I.T. and other institutions, re-evaluated, rewritten, and tried again. Only then were the final manuscripts undertaken.

A Reader

The Physics of Nuclear Reactors

An Introduction

An Introduction to

Random Searches and

Biological Encounters

The Physics of Stars

Market_Desc: This text is aimed at

undergraduates in science and

engineering who require knowledge of

the fundamental principles of nuclear

physics and its applications. Special

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Features: The book offers numerous practical examples and problems to enhance the material. · It avoids complex and extensive mathematical treatments · It covers the basic theory but emphasizes the applications

About The Book: This title provides the latest information on applications of Nuclear Physics. Written from an experimental point of view this text is broadly divided into two parts, firstly a general introduction to Nuclear Physics and secondly its applications. The book also includes chapters on practical examples and problems. It also contains hints to solving problems which are included in the appendix. This volume contains the proceedings of a workshop held at Drexel University from September 1 to

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September 3, 1980, under the joint auspices of Drexel University, The University of Tennessee and Vanderbilt University. The workshop dealt with subjects of topical importance to the nuclear physics community: high spin phenomena, heavy ion reactions, transfer reactions, microscopic theories of nuclear structure and the interacting boson model, and miscellaneous topics. This proceedings contains all of the invited papers plus short manuscripts expanding on the materials of the invited papers. A total of about 85 participants came to the workshop. The format of the conference was kept informal on purpose, so as to facilitate the discussions. Unfortunately, these discussions, at times intense, could not

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be included in this volume due to the lack of secretarial help during the meeting. A great deal of current information was exchanged during the conference. However, the full impact of a conference can only be realized when the proceedings have been published and read by participants as well as other colleagues in this field of physics who were not in attendance. We sincerely hope that these proceedings will be useful in this regard.

This Comprehensive Text Presents Not Only A Detailed Exposition Of The Basic Principles Of Nuclear Physics But Also Provides A Contemporary Flavour Of The Subject By Covering The Recent Developments. Starting With A Synoptic View Of The Subject, The Book Explains Various Physical

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Phenomena In Nuclear Physics Alongwith The Experimental Methods Of Measurement. Nuclear Forces As Encountered In Two-Body Problems Are Detailed Next Followed By The Problems Of Radioactive Decay. Nuclear Reactions Are Then Comprehensively Explained Alongwith The Various Models Of Reaction Mechanism. This Is Followed By Recent Developments Like The Pre-Equilibrium Model And Heavy Ions Induced Reaction. The Book Would Serve As A Contemporary Text For Senior Undergraduate As Well As Post Graduate Students Of Physics. Practising Scientists And Researchers In The Area Would Also Find The Book To Be A Useful Reference Source. This text is an accessible, balanced

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introduction to nuclear and particle physics, providing an overview of the theoretical and experimental aspects of the subject.

Contemporary Research Topics in Nuclear Physics

Elements of Nuclear Physics

Introductory Nuclear Physics

Trade with China and American Interests

Nuclear and Particle Physics

Written by established experts in the field, this book features in-depth discussions of proven scientific principles, current trends, and applications of nuclear chemistry to the sciences and engineering. •

Provides up-to-date coverage of the latest research and examines the theoretical and practical aspects of

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nuclear and radiochemistry • Presents the basic physical principles of nuclear and radiochemistry in a succinct fashion, requiring no basic knowledge of quantum mechanics • Adds discussion of math tools and simulations to demonstrate various phenomena, new chapters on Nuclear Medicine, Nuclear Forensics and Particle Physics, and updates to all other chapters • Includes additional in-chapter sample problems with solutions to help students • Reviews of 1st edition: "... an authoritative, comprehensive but succinct, state-of-the-art textbook" (The Chemical Educator) and "...an excellent resource for libraries and

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laboratories supporting programs requiring familiarity with nuclear processes ..." (CHOICE)

Introduction to Quantum Mechanics is an introduction to the power and elegance of quantum mechanics. Assuming little in the way of prior knowledge, quantum concepts are carefully and precisely presented, and explored through numerous applications and problems. Some of the more challenging aspects that are essential for a modern appreciation of the subject have been included, but are introduced and developed in the simplest way possible. Undergraduates taking a first course on quantum mechanics will find this text an invaluable introduction to the field and help

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*prepare them for more advanced courses. Introduction to Quantum Mechanics: * Starts from basics, reviewing relevant concepts of classical physics where needed. * Motivates by considering weird behaviour of quantum particles. * Presents mathematical arguments in their simplest form. Covers all the phenomenological and experimental data on nuclear physics and demonstrates the latest experimental developments that can be obtained. Introduces modern theories of fundamental processes, in particular the electroweak standard model, without using the sophisticated underlying quantum field theoretical tools. Incorporates all major present*

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applications of nuclear physics at a level that is both understandable by a majority of physicists and scientists of many other fields, and usefull as a first introduction for students who intend to pursue in the domain.

A comprehensive examination of America's relationship with China. Both addressing and looking beyond the annual debate on most-favored-nation trading status (MFN), the authors examine the complex economic, strategic, and philosophical issues confronting US policymakers in this critical relationship. The volume also explores the views of the Chinese people themselves, the changing human rights policies of the

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Chinese government, the political implications of the Jackson-Vanik amendment, and the internal deliberations within the Clinton administration on China policy.

Paper edition (unseen), \$12.95.

Annotation copyright by Book News, Inc., Portland, OR

Global Heritage

Nuclear Physics

Introduction to Radiological Physics and Radiation Dosimetry

5th edition

Principles and Applications

This book provides an understandable review of $SU(3)$ representations, $SU(3)$ Wigner-Racah algebra and the $SU(3) \supset SO(3)$ integrity basis

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operators, which are often considered to be difficult and are avoided by most nuclear physicists. Explaining group algebras that apply to specific physical systems and discussing their physical applications, the book is a useful resource for researchers in nuclear physics. At the same time it helps experimentalists to interpret data on rotational nuclei by using $SU(3)$ symmetry that appears in a

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variety of nuclear models, such as the shell model, pseudo-SU(3) model, proxy-SU(3) model, symplectic $Sp(6, R)$ model, various interacting boson models, various interacting boson-fermion models, and cluster models. In addition to presenting the results from all these models, the book also describes a variety of statistical results that follow from the SU(3) symmetry.

Contributed papers

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presented at the
National Seminar on
"Contemporary Nuclear
Physics", held at the
Institute of Physics,
Bhubaneswar.

The Physics of Stars,
Second Edition, is a
concise introduction to
the properties of
stellar interiors and
consequently the
structure and evolution
of stars. Strongly
emphasising the basic
physics, simple and
uncomplicated
theoretical models are
used to illustrate

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clearly the connections between fundamental physics and stellar properties. This text does not intend to be encyclopaedic, rather it tends to focus on the most interesting and important aspects of stellar structure, evolution and nucleosynthesis. In the Second Edition, a new chapter on Helioseismology has been added, along with a list of physical constants and extra student problems. There is also

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new material on the Hertzprung-Russell diagram, as well as a general updating of the entire text. It includes numerous problems at the end of each chapter aimed at both testing and extending student's knowledge.

For undergraduate physics students or for nuclear engineers.

Introduction to Nuclear Reactions

Introduction to Quantum Physics and Nuclear

Physics Set

Introduction to Quantum

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Mechanics

Introduction to Nuclear
and Particle Physics

Contemporary Nuclear
Physics

A comprehensive, unified treatment of present-day nuclear physics-the fresh edition of a classic text/reference. "A fine and thoroughly up-to-date textbook on nuclear physics . . . most welcome." -Physics Today (on the First Edition). What sets Introductory Nuclear Physics apart from other books on the subject is its presentation of nuclear physics as an integral part of

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modern physics. Placing the discipline within a broad historical and scientific context, it makes important connections to other fields such as elementary particle physics and astrophysics. Now fully revised and updated, this Second Edition explores the changing directions in nuclear physics, emphasizing new developments and current research—from superdeformation to quark-gluon plasma. Author Samuel S.M. Wong preserves those areas that established the First Edition as a standard text in university physics

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departments, focusing on what is exciting about the discipline and providing a concise, thorough, and accessible treatment of the fundamental aspects of nuclear properties. In this new edition, Professor Wong:

- * Includes a chapter on heavy-ion reactions-from high-spin states to quark-gluon plasma**
- * Adds a new chapter on nuclear astrophysics**
- * Relates observed nuclear properties to the underlying nuclear interaction and the symmetry principles governing subatomic particles**
- * Regroups material and appendices to make the text**

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easier to use * Lists Internet links to essential databases and research projects * Features end-of-chapter exercises using real-world data. Introductory Nuclear Physics, Second Edition is an ideal text for courses in nuclear physics at the senior undergraduate or first-year graduate level. It is also an important resource for scientists and engineers working with nuclei, for astrophysicists and particle physicists, and for anyone wishing to learn more about trends in the field. This introductory text

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emphasises physical principles, rather than the mathematics. Each topic begins with a discussion of the physical characteristics of the motion or system. The mathematics is kept as clear as possible, and includes elegant mathematical descriptions where possible. Designed to provide a logical development of the subject, the book is divided into two sections, vibrations followed by waves. A particular feature is the inclusion of many examples, frequently drawn from everyday life, along with more cutting-edge ones. Each

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chapter includes problems ranging in difficulty from simple to challenging and includes hints for solving problems. Numerous worked examples included throughout the book.

Nuclear Physics: A Very Short Introduction

**Atomic and Nuclear Physics
Security, Strategy, and New
Perspectives from Russia**

Particle Physics

**Nuclear Reactions for
Astrophysics**