

# Krane Introductory Nuclear Physics Solutions Manual

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*Modern Physics* Paul  
Allen Tipler 1978 For

the intermediate-level  
course, the Fifth  
Edition of this widely

used text takes modern physics textbooks to a higher level. With a flexible approach to accommodate the various ways of teaching the course (both one- and two-term tracks are easily covered), the authors recognize the audience and its need for updated coverage, mathematical rigor, and features to build and support student understanding. Continued are the superb explanatory style, the up-to-date topical coverage, and the Web enhancements that gained earlier editions worldwide recognition. Enhancements include a streamlined approach to nuclear physics, thoroughly revised and updated coverage on particle physics and astrophysics, and a review of the essential Classical Concepts important to students studying Modern Physics.

Strengthening Forensic Science in the United States National Research Council 2009-07-29

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the

National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-

action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

### **Nuclear Physics in a Nutshell**

Carlos A. Bertulani 2007-04-03  
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 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 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 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 address supporting technical topics.

*Physics* Robert Resnick  
1992-03-01

Physics, Volume 2 David  
Halliday 2010-04-20

Written for the full year or three term Calculus-based University Physics course for science and engineering majors, the publication of the first edition of *Physics* in 1960 launched the modern era of *Physics* textbooks. It was a new paradigm at the time and continues to be the dominant model for all texts. *Physics* is the most realistic option for schools looking to teach a more demanding course. The entirety of Volume 2 of the 5th

edition has been edited to clarify conceptual development in light of recent findings of physics education research. End-of-chapter problem sets are thoroughly over-hauled, new problems are added, outdated references are deleted, and new short-answer conceptual questions are added.

**Introductory Nuclear Physics** Krane Kenneth S. 2008

Modern Physics Raymond A. Serway 2004-04-15  
Accessible and flexible, MODERN PHYSICS, Third Edition has been specifically designed to provide simple, clear, and mathematically uncomplicated explanations of physical concepts and theories of modern physics. The authors clarify and show support for these theories through a broad range of current applications and examples-attempting to

answer questions such as: What holds molecules together? How do electrons tunnel through barriers? How do electrons move through solids? How can currents persist indefinitely in superconductors? To pique student interest, brief sketches of the historical development of twentieth-century physics such as anecdotes and quotations from key figures as well as interesting photographs of noted scientists and original apparatus are integrated throughout. The Third Edition has been extensively revised to clarify difficult concepts and thoroughly updated to include rapidly developing technical applications in quantum physics. To complement the analytical solutions in the text and to help students visualize abstract concepts, the

new edition also features free online access to QMTools, new platform-independent simulation software created by co-author, Curt Moyer, and developed with support from the National Science Foundation. Icons in the text indicate the problems designed for use with the software. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Introduction to  
Classical Mechanics

David Morin 2008-01-10

This textbook covers all the standard introductory topics in classical mechanics, including Newton's laws, oscillations, energy, momentum, angular momentum, planetary motion, and special relativity. It also explores more advanced

topics, such as normal modes, the Lagrangian method, gyroscopic motion, fictitious forces, 4-vectors, and general relativity. It contains more than 250 problems with detailed solutions so students can easily check their understanding of the topic. There are also over 350 unworked exercises which are ideal for homework assignments. Password protected solutions are available to instructors at [www.cambridge.org/9780521876223](http://www.cambridge.org/9780521876223). The vast number of problems alone makes it an ideal supplementary text for all levels of undergraduate physics courses in classical mechanics. Remarks are scattered throughout the text, discussing issues that are often glossed over in other textbooks, and it is thoroughly illustrated with more

than 600 figures to help demonstrate key concepts.

*Introductory Nuclear Physics* Kenneth S. Krane  
1991-01-16 INTRODUCTORY NUCLEAR PHYSICS

**NUCLEAR PHYSICS: PRINCIPLES AND APPLICATIONS** Lilley

2006-09 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 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.

Introductory Nuclear Physics David Halliday  
1966

**Handbook of Drug Metabolism, Third Edition** Paul G. Pearson

2016-04-26 The second edition of a bestseller, this book presents the latest innovative research methods that help break new ground by applying patterns, reuse, and design science to research. The book relies on familiar patterns to provide the solid fundamentals of various research philosophies and

techniques as touchstones that demonstrate how to innovate research methods. Filled with practical examples of applying patterns to IT research with an emphasis on reusing research activities to save time and money, this book describes design science research in relation to other information systems research paradigms such as positivist and interpretivist research. Modern Physics, 2Nd Ed Krane 2009-08 Modern Physics, 2nd edition is the revision of a modern classic that covers all the major topics in modern physics, including relativity, quantum physics, and their applications. The Special Theory of Relativity. The Particlelike Properties of Electromagnetic Radiation. The Wavelike Properties of Particles.

The Schrödinger Equation. The Rutherford-Bohr Model of the Atom. The Hydrogen Atom in Wave Mechanics. Many-Electron Atoms. Molecular Structure. Statistical Physics. Solid-State Physics. Nuclear Structure and Radioactivity. Nuclear Reactions and Applications. Elementary Particles. Astrophysics and General Relativity. Cosmology: The Origin and Fate of the Universe **Student Solutions Manual to Accompany Physics, 5th Edition** David Halliday 2001-10-10 Student Solutions Manual to accompany Physics, 5th edition: Written for the full year or three term Calculus-based University Physics course for science and engineering majors, the publication of the first edition of Physics in 1960 launched the modern era of Physics textbooks. It was a new

paradigm at the time and continues to be the dominant model for all texts. Physics is the most realistic option for schools looking to teach a more demanding course.

**Problem Solutions for Modern Physics** Kenneth S. Krane 1983-01-01

**Introduction to Nuclear Physics** 1976

Nuclear and Particle Physics Brian R. Martin 2006-04-28 This text is an accessible, balanced introduction to nuclear and particle physics, providing an overview of the theoretical and experimental aspects of the subject.

**Introduction to Atomic and Nuclear Physics** Henry Semat 2012-12-06 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 U.S.A. by Holt, Rinehart and Winston, Inc. Fifth edition first published in Great Britain 1973 by Chapman and Hall Ltd 11 New Fetter Lane, London EC4P 4EE Reprinted as a paperback 1978 Reprinted 1979, 1983, 1985 © 1939, 1946, 1954, 1962 by Henry Semat © 1972 by Holt, Rinehart and Winston, Inc. Fletcher & Son Ltd, Norwich  
ISBN-13: 978-0-412-15670-0 e-ISBN-13: 978-1-4615-9701-8 DOI: 10.1007/978-1-4615-9701-8 All rights reserved. No part of this book may be reprinted, or reproduced or utilized

in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage and retrieval system, without permission in writing from the Publisher.

**Modern Physics, Loose-Leaf** Kenneth S. Krane  
2019-06-18 One of the field's most respected introductory texts, Modern Physics provides a deep exploration of fundamental theory and experimentation. Appropriate for second-year undergraduate science and engineering students, this esteemed text presents a comprehensive introduction to the concepts and methods that form the basis of modern physics, including examinations of relativity, quantum physics, statistical

physics, nuclear physics, high energy physics, astrophysics, and cosmology. A balanced pedagogical approach examines major concepts first from a historical perspective, then through a modern lens using relevant experimental evidence and discussion of recent developments in the field. The emphasis on the interrelationship of principles and methods provides continuity, creating an accessible "storyline" for students to follow. Extensive pedagogical tools aid in comprehension, encouraging students to think critically and strengthen their ability to apply conceptual knowledge to practical applications. Numerous exercises and worked examples reinforce fundamental principles.

**An Introduction to Nuclear Physics** W. N. Cottingham 2001-02-22

This clear and concise introduction to nuclear physics provides an excellent basis for a core undergraduate course in this area. The book opens by setting nuclear physics in the context of 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. The book also includes chapters on nuclear fission, its application in nuclear power reactors, the role of nuclear physics in energy production and nucleosynthesis in stars. This second edition contains several additional topics: muon-catalysed fusion, the nuclear and neutrino physics of supernovae, neutrino mass and neutrino oscillations,

and the biological effects of radiation. A knowledge of basic quantum mechanics and special relativity is assumed. Appendices deal with other more specialized topics. Each chapter ends with a set of problems for which outline solutions are provided.

**Problems and Solutions on Atomic, Nuclear and Particle Physics** Yung-Kuo Lim 2000-03-04 This book, part of the seven-volume series Major American Universities PhD Qualifying Questions and Solutions contains detailed solutions to 483 questions/problems on atomic, molecular, nuclear and particle physics, as well as experimental methodology. The problems are of a standard appropriate to advanced undergraduate and graduate syllabi, and blend together two objectives –

understanding of physical principles and practical application. The volume is an invaluable supplement to textbooks.

*Nuclear Sizes and Structure* Roger C. Barrett 1977

**Elementary Particle Physics** Andrew J. Larkoski 2019-05-23  
Introduces the fundamentals of particle physics with a focus on modern developments and an intuitive physical interpretation of results.

Mathematics of Classical and Quantum Physics  
Frederick W. Byron 2012-04-26  
Graduate-level text offers unified treatment of mathematics applicable to many branches of physics. Theory of vector spaces, analytic function theory, theory of integral equations, group theory, and more. Many problems. Bibliography.

Student Solutions Manual for Thornton/Rex's Modern Physics for Scientists and Engineers, 4th Stephen T. Thornton 2012-02-02  
The student solutions manual contains detailed solutions to approximately 25% of the end-of-chapter problems. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

**Solutions Manual to Accompany Introductory Nuclear Physics** Kenneth S. Krane 1989

*Introduction to Health Physics: Fourth Edition* Herman Cember 2008-05-04  
A dynamic, all-inclusive overview of the field of health physics If it's an important topic in the field of health physics, you'll find it in this trusted text . . . in sections on physical principles,

atomic and nuclear structure, radioactivity, biological effects of radiation, and instrumentation. This one-of-a-kind guide spans the entire scope of the field and offers a problem-solving approach that will serve you throughout your career. Features: A thorough overview of need-to-know topics, from a review of physical principles to a useful look at the interaction of radiation with matter Chapter-ending practice problems to solidify your grasp of health physics topics and their real-world application Essential background material on quantitative risk assessment for health-threatening radiation dangers Authoritative radiation safety and environmental health coverage that supports the International

Commission on Radiological Protection's standards for specific populations High-yield appendices to expand your comprehension of chapter material: Values of Some Useful Constants, Table of the Elements, The Reference Person, Specific Absorbed Fraction of Photon Energy, and Total Mass Attenuation Coefficients NEW! Essential coverage of non-ionizing radiation-laser and microwaves, computer use in dose calculation, and dose limit recommendations Physics. David Halliday 2001-07-01 The publication of the first edition of Physics in 1960 launched the modern era of physics textbooks. It was a new paradigm then and, after 40 years, it continues to be the dominant model for all texts. The big change in the market has

been a shift to a lower level, more accessible version of the model. Fundamentals of Physics is a good example of this shift. In spite of this change, there continues to be a demand for the original version and, indeed, we are seeing a renewed interest in Physics as demographic changes have led to greater numbers of well-prepared students entering university. Physics is the only book available for academics looking to teach a more demanding course.

Student Solutions Manual for Serway/Moses/Moyer S Modern Physics, 3rd

Raymond A. Serway  
2004-06 This manual contains solutions to all odd-numbered problems in the text.

Nuclear and Particle Physics Brian R. Martin  
2011-08-31 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 for physics and astronomy undergraduates in higher-level courses, this text also serves well as a general reference for graduate studies.

**Parentology** Dalton Conley 2014-03-18 An award-winning scientist offers his unorthodox approach to childrearing: "Parentology is

brilliant, jaw-droppingly funny, and full of wisdom...bound to change your thinking about parenting and its conventions" (Amy Chua, author of *Battle Hymn of the Tiger Mother*). If you're like many parents, you might ask family and friends for advice when faced with important choices about how to raise your kids. You might turn to parenting books or simply rely on timeworn religious or cultural traditions. But when Dalton Conley, a dual-doctorate scientist and full-blown nerd, needed childrearing advice, he turned to scientific research to make the big decisions. In *Parentology*, Conley hilariously reports the results of those experiments, from bribing his kids to do math (since studies show conditional cash transfers improved

educational and health outcomes for kids) to teaching them impulse control by giving them weird names (because evidence shows kids with unique names learn not to react when their peers tease them) to getting a vasectomy (because fewer kids in a family mean smarter kids). Conley encourages parents to draw on the latest data to rear children, if only because that level of engagement with kids will produce solid and happy ones. Ultimately these experiments are very loving, and the outcomes are redemptive—even when Conley's sassy kids show him the limits of his profession. *Parentology* teaches you everything you need to know about the latest literature on parenting—with lessons that go down easy. You'll be laughing and learning at the same

time.

*Introductory Nuclear Physics* Samuel S. M. Wong 2008-09-26 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 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 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 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.

**Problems and Solutions in Nuclear and Particle Physics** Sergio Petrer  
2019-07-16 This book presents 140 problems with solutions in introductory nuclear and particle physics. Rather than being only

partially provided or simply outlined, as is typically the case in textbooks on nuclear and particle physics, all solutions are explained in detail. Furthermore, different possible approaches are compared. Some of the problems concern the estimation of quantities in realistic experimental situations. In general, solving the problems does not require a substantial mathematics background, and the focus is instead on developing the reader's sense of physics in order to work out the problem in question. Consequently, sections on experimental methods and detection methods constitute a major part of the book. Given its format and content, it offers a valuable resource, not only for undergraduate classes but also for self-assessment in

preparation for graduate school entrance and other examinations.

Computer Solutions in Physics Steven Van Wyk 2008 With the great progress in numerical methods and the speed of the modern personal computer, if you can formulate the correct physics equations, then you only need to program a few lines of code to get the answer. Where other books on computational physics dwell on the theory of problems, this book takes a detailed look at how to set up the equations and actually solve them on a PC. Focusing on popular software package Mathematica, the book offers undergraduate student a comprehensive treatment of the methodology used in programming solutions to equations in physics.

*Nuclear Power Engineering* Mohamed

Mohamed El-Wakil 1962

**The Big Picture** Sean

Carroll 2016-05-10 The

instant New York Times

bestseller about

humanity's place in the universe—and how we understand it.

“Vivid...impressive....Splendidly

informative.”—The New

York Times “Succeeds

spectacularly.”—Science

“A tour de force.”—Salon

Already internationally

acclaimed for his

elegant, lucid writing

on the most challenging

notions in modern

physics, Sean Carroll is

emerging as one of the

greatest humanist

thinkers of his

generation as he brings

his extraordinary

intellect to bear not

only on Higgs bosons and

extra dimensions but now

also on our deepest

personal questions:

Where are we? Who are

we? Are our emotions,

our beliefs, and our

hopes and dreams

ultimately meaningless out there in the void? Do human purpose and meaning fit into a scientific worldview? In short chapters filled with intriguing historical anecdotes, personal asides, and rigorous exposition, readers learn the difference between how the world works at the quantum level, the cosmic level, and the human level—and then how each connects to the other. Carroll's presentation of the principles that have guided the scientific revolution from Darwin and Einstein to the origins of life, consciousness, and the universe is dazzlingly unique. Carroll shows how an avalanche of discoveries in the past few hundred years has changed our world and what really matters to us. Our lives are dwarfed like never

before by the immensity of space and time, but they are redeemed by our capacity to comprehend it and give it meaning. The Big Picture is an unprecedented scientific worldview, a tour de force that will sit on shelves alongside the works of Stephen Hawking, Carl Sagan, Daniel Dennett, and E. O. Wilson for years to come.

1000 Solved Problems in Modern Physics Ahmad A. Kamal 2010-06-23 This book is targeted mainly to the undergraduate students of USA, UK and other European countries, and the M. Sc of Asian countries, but will be found useful for the graduate students, Graduate Record Examination (GRE), Teachers and Tutors. This is a by-product of lectures given at the Osmania University, University of Ottawa and University of Tebrez

over several years, and is intended to assist the students in their assignments and examinations. The book covers a wide spectrum of disciplines in Modern Physics, and is mainly based on the actual examination papers of UK and the Indian Universities. The selected problems display a large variety and conform to syllabi which are currently being used in various countries. The book is divided into ten chapters. Each chapter begins with basic concepts containing a set of formulae and explanatory notes for quick reference, followed by a number of problems and their detailed solutions. The problems are judiciously selected and are arranged section-wise. The solutions are neither pedantic nor terse. The approach is

straight forward and step-- step solutions are elaborately provided. More importantly the relevant formulas used for solving the problems can be located in the beginning of each chapter. There are approximately 150 line diagrams for illustration. Basic quantum mechanics, elementary calculus, vector calculus and Algebra are the pre-requisites.

*Exercises with Solutions in Radiation Physics* Bo

N. Nilsson 2015-11-21

The textbook begins with exercises related to radioactive sources and decay schemes. The problems covered include series decay and how to determine the frequency and energy of emitted particles in disintegrations. The next chapter deals with the interaction of ionizing radiation,

including the treatment of photons and charged particles. The main focus is on applications based on the knowledge of interaction, to be used in subsequent work and courses. The textbook then examines detectors and measurements, including both counting statistics and properties of pulse detectors. The chapter that follows is dedicated to dosimetry, which is a major subject in medical radiation physics. It covers theoretical applications, such as different equilibrium situations and cavity theories, as well as experimental dosimetry, including ionization chambers and solid state and liquid dosimeters. A shorter chapter deals with radiobiology, where different cell survival models are considered. The last chapter concerns radiation

protection and health physics. Both radioecology and radiation shielding calculations are covered. The textbook includes tables to simplify the solutions of the exercises, but the reader is mainly referred to important websites for importing necessary data. *Physics, Volume 1* David Halliday 2001 Written for the full year or three term Calculus-based University Physics course for science and engineering majors, the publication of the first edition of Physics in 1960 launched the modern era of Physics textbooks. It was a new paradigm at the time and continues to be the dominant model for all texts. Physics is the most realistic option for schools looking to teach a more demanding course.

## **Introduction to Nuclear**

**and Particle Physics A**  
Das 2003-12-23 ' 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 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 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

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

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 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 ’