An updated volume in this provides concise, critical, systematic treatments of important topics, designed to stimulate fundamental research in pure and applied analytical chemistry, as well as the scientific and instrumental fundamentals of analytical methods.

Aimed at helping the physics student to develop a solid grasp of basic graduate-level material, this book presents worked solutions to a wide range of informative problems. These problems have been culled from the preliminary and general examinations created by the physics department at Princeton University for its graduate program. The authors, all students who have successfully completed the examinations, selected these problems on the basis of usefulness, interest, and originality, and have provided highly detailed solutions to each one. Their book will be a valuable resource not only to other students but to college physics teachers as well. The first four chapters pose problems in the areas of mechanics, electricity and magnetism, quantum mechanics, and thermodynamics and statistical mechanics, thereby serving as a review of material typically covered in undergraduate courses. Later chapters deal with material new to most first-year graduate students, challenging them on such topics as condensed matter, relativity and astrophysics, nuclear physics, elementary particles, and atomic and general physics.

"How Do You Score Higher on the MCAT(R) PRACTICE." In the "MCAT(R) Workbook," Kaplan's MCAT(R) experts have compiled the most effective practice exercises along with Kaplan's highly effective test-taking strategies. Used by itself or in combination with Kaplan's "MCAT(R) Comprehensive Review," this intensive workbook is specifically designed to help you build the critical skills you need to score higher on the new MCAT(R). - Practice with hundreds of questions to build your skills in each section of the MCAT(R) - 2 Biological Sciences Practice Sets - 2 Verbal Reasoning Practice Sets - 2 Writing Sample Practice Statements - 2 Physical Sciences Practice Sets - Prepare with a full-length practice MCAT(R), complete with an explanation for every answer and detailed score analysis. - Score Higher with Kaplan's exclusive strategies for approaching each MCAT(R) question type, maximizing your time, and minimizing stress. Also available: - Kaplan 'MCAT(R) Comprehensive Review' - Kaplan "MCAT(R) 45" - Kaplan/Newsweek Medical School Admissions Adviser" Sign up for the "Pre-Med Edge." Tap into Kaplan's expertise with the Pre-Med Edge, our free email newsletter. Filled with admissions tips, the latest test news, important deadlines, study aids, advice, and much more, the Pre-Med Edge is a great way to get the edge on the MCAT and med school admissions. Sign up today at kaptest.com Test Prep, Admissions and Guidance. For life. Kaplan has helped more than 3 million students achieve their educational and career goals. With 185 centers and more than 1,200 classroom locations throughout the United States and abroad, Kaplan provides a full range of services, including test preparation courses, admissions consulting, programs for international students, professional licensing preparation, and more. For more information, contact us at 1-800-KAP-TEST or visit kaptest.com (AOL Keyword: kaplan).

The method of effective field theory (EFT) is ideally suited to deal with physical systems containing separate energy scales. Applied to low energy hadronic phenomena it provides a framework for systematically describing nuclear systems in a way consistent with quantum chromodynamics, the underlying theory of strong interactions. Because EFT offers the possibility of a unified description of all low energy processes involving nucleons, it has the potential to become the foundation of conventional nuclear physics. Much progress has been made recently in this field: a number of observables in the two-nucleon sector were computed and compared to experiment, issues related to the extension of the EFT program to the three-nucleon sector were clarified, and the convergence of the low energy expansion was critically examined. This book contains the proceedings of the Workshop on 'Nuclear Physics with Effective Field Theory II', where these and other developments were discussed.

The book 'Basic Concepts in Nuclear and Particle Physics' in very simple language, so as to make it understandable to a physics student. In this way, the present textbook is designed to serve the needs of students, who will use this book as an introduction to nuclear physics and go no further.

Nuclear Science and Technology, Volume 10: Variational Methods in Nuclear Reactor Physics presents the mathematical methods of a variational origin that are useful in obtaining approximate solutions to science and engineering problems. This book is composed of five chapters and begins with a discussion on the variation principles for physical systems described by both inhomogeneous and homogeneous equations to develop a generalized perturbation theory. Chapter 2 deals with the applications of variational estimates and generalized perturbation theory to neutron transport problems. Chapter 3 covers the variation principles of the Lagrangian form that are constructed for a general, linear-time-dependent process and for the specific case of the P1 neutron kinetics equations. Chapter 4 presents the general procedure for the variational derivation of synthesis approximations and their applications to problems in reactor physics. This chapter also examines the relationship of the spatial synthesis and finite-element method and a hybrid method that combines features of both methods. Chapter 5 describes the relationship of variation theory with the Hamilton-Jacobi theory and with the optimization theories of the maximum principle and dynamic programming. Nuclear physicists and researchers will find this text invaluable.

Provides an in-depth review of concepts covered on the exam, test-taking strategies, a diagnostic tool, and three full-length practice tests with detailed answer explanations.

Includes entries for maps and atlases.

A complete test preparation guide that features four full-length practice tests, expert review of the physics content test takers need to know, and Kaplan's effective test-taking tips and strategies.

NUCLEAR ENGINEERING FUNDAMENTALS is the most modern, up-to-date, and reader friendly nuclear engineering textbook on the market today. It provides a thoroughly modern alternative to classical nuclear engineering textbooks that have not been updated over the last 20 years. Printed in full color, it conveys a sense of awe and wonder to anyone interested in the field of nuclear energy. It discusses nuclear reactor design, nuclear fuel cycles, reactor thermal-hydraulics, reactor operation, reactor safety, radiation...
detection and protection, and the interaction of radiation with matter. It presents an in-depth introduction to the science of nuclear power, nuclear energy production, the nuclear chain reaction, nuclear cross sections, radioactivity, and radiation transport. All major types of reactors are introduced and discussed, and the role of Internet tools in their analysis and design is explored. Reactor safety and reactor containment systems are explored as well. To convey the evolution of nuclear science and engineering, historical figures and their contributions to evolution of the nuclear power industry are explored. Numerous examples are provided throughout the text, and are brought to life through life-like portraits, photographs, and colorful illustrations. The text follows a well-structured pedagogical approach, and provides a wide range of student learning features not available in other textbooks including useful equations, numerous worked examples, and lists of key web resources. As a bonus, a complete Solutions Manual and PDF slides of all figures are available to qualified instructors who adopt the text. More than any other fundamentals book in a generation, it is student-friendly, and truly impressive in its design and its scope. It can be used for a one-semester, a two-semester, or a three-semester course in the fundamentals of nuclear power. It can also serve as a great reference book for practicing nuclear scientists and engineers. To date, it has achieved the highest overall satisfaction of any mainstream nuclear engineering textbook available on the market today.

An updated volume in this provides concise, critical, systematic treatments of important topics, designed to stimulate fundamental research in pure and applied analytical chemistry, as well as the scientific and instrumental fundamentals of analytical methods.

Radioactivity in nature Radioelements, Isotopes and radionuclides Physical properties of atomic nuclei and elementary particles Radioactive Decay Decay Modes Nuclear radiation Measurement of nuclear radiation Nuclear reactions Chemical effects of nuclear reactions Influence of chemical bonding on nuclear properties Nuclear energy, nuclear reactors, nuclear fuel and fuel cycles Production of radionuclides and labelled compounds Special aspects of the chemistry of radionuclides Radioelements Radionuclides in Geo-and Cosmochemistry Dating bij nuclear methods Radioanalyis Radiotraces in chemistry Radionuclides in the life sciences Technical and industrial applications of radionuclides and nuclear radiation Radionuclides in the geosphere and the biosphere Dosimetry and radiation protection

The third edition of a classic book, Basic Ideas and Concepts in Nuclear Physics sets out in a clear and consistent manner the various elements of nuclear physics. Divided into four main parts: the constituents and characteristics of the nucleus; nuclear interactions, including the strong, weak and electromagnetic forces; an introduction to nuclear structure; and recent developments in nuclear structure research, the book delivers a balanced account of both theoretical and experimental nuclear physics for students studying the topic. In addition to the numerous revisions and updates to the previous edition to capture the developments in the subject over the last five years, the book contains a new chapter on the structure and stability of very light nuclei. As with the previous edition the author retains a comprehensive set of problems and the book contains an extensive and well-chosen set of diagrams. He keeps the book up to date with recent experimental and theoretical research, provides mathematical details as and when necessary, and illustrates topics with box features containing examples of recent experimental and theoretical research results.

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