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- **Physics** - Robert M. Eisberg - 1981
- **Physics** - Robert Stollberg - 1980-01-01
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Modern Nuclear Physics - Alexandre Obertelli - 2021-07-20

This textbook is a unique and ambitious primer of nuclear physics, which introduces recent theoretical and experimental progresses starting from basics in fundamental quantum mechanics. The highlight is to offer an overview of nuclear structure phenomena relevant to recent key findings such as unstable halo nuclei, superheavy elements, neutron stars, nucleosynthesis, the standard model, lattice quantum chromodynamics (LQCD), and chiral effective theory. An additional attraction is that general properties of nuclei are comprehensively explained from both the theoretical and experimental viewpoints. The book begins with the conceptual and mathematical basics of quantum mechanics, and goes into the main point of nuclear physics – nuclear structure, radioactive ion beam physics, and nuclear reactions. The last chapters devote interdisciplinary topics in association with
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**Laboratory Investigations for Physics** - Faith Fitch Hill - 1965

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**Progress and Unit Tests to accompany Physics: fundamentals and frontiers** By Chester F. Protheroe, Willard A. Brown. [With "Answer Book".]. - Robert STOLLBERG (and HILL (Faith Fitch)) - 1965

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**Rock Magnetism** - David J. Dunlop - 2001-08-30

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**Fundamentals and Frontiers of the Josephson Effect** - Francesco Tafuri - 2019-09-17
This book provides a comprehensive and up-to-date description of the Josephson effect, a topic of never-ending interest in both fundamental and applied physics. In this volume, world-renowned experts present the unique aspects of the physics of the Josephson effect, resulting from the use of new materials, of hybrid architectures and from the possibility of realizing nanoscale junctions. These new experimental capabilities lead to systems where novel coherent phenomena and transport processes emerge. All this is of great relevance and impact, especially when combined with the didactic approach of the book. The reader will benefit from a general and modern superconductors on a macroscopic scale. Topics that have been only recently discussed in specialized papers and in short reviews are described here for the first time and organized in a general framework. An important section of the book is also devoted to applications, with focus on long-term, future applications. In addition to a significant number of illustrations, the book includes numerous tables for comparative studies on technical aspects.

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**Frontiers of Fundamental Physics** - M. Barone - 2012-12-06
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An important fraction of the participants could be considered "heretical" because they disagreed with the validity of one or several fundamental assumptions of modern physics. Common to all participants was an excellent scientific level coupled with a remarkable intellectual honesty: we are proud to present to the readers this certainly unique book. Alternative ways of considering fundamental matters should of course be vitally important for the progress of science, unless one wanted to admit that physics at the end of the XXth century has already obtained the final truth, a very unlikely possibility even if one accepted the doubtful idea of the existence of a "final" truth. The merits of the Olympia conference should therefore not be judged a priori in a positive or in a negative way depending on one's refusal or acceptance, respectively, but considered after reading the actual of basic principles of contemporary science, new proposals and evidences there presented. They seem very important to us.

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Nano and Cell Mechanics - Horacio D. Espinosa - 2012-12-12

Research in nano and cell mechanics has received much attention from the scientific community as a result of society needs and government initiatives to accelerate developments in materials, manufacturing, electronics, medicine and healthcare, energy, and the environment. Engineers and scientists are currently engaging in increasingly complex scientific problems that require interdisciplinary approaches. In this regard, studies in this field draw from fundamentals in atomistic scale phenomena, biology, statistical and continuum mechanics, and multiscale modeling and experimentation. As a result, contributions in these areas are spread over a large number of specialized journals, which prompted the Editors to assemble this book. Nano and Cell Mechanics: Fundamentals and Frontiers brings together many of the new developments in the field for the
in learning about the latest analysis tools. The book can also serve as a text for graduate courses in theoretical and applied mechanics, mechanical engineering, materials science, and applied physics.

**Feynman And Computation** - Anthony Hey - 2018-03-08

Richard P. Feynman made profoundly important and prescient contributions to the physics of computing, notably with his seminal articles "There's Plenty of Room at the Bottom? and "Simulating Physics with Computers. These two provocative papers (both reprinted in this volume) anticipated, decades before their time, several breakthroughs that have since become fields of science in their own right, such as nanotechnology and the newest, perhaps most exciting area of physics and computer science, quantum computing. The contributors to this book are all distinguished physicists and computer scientists, and many of them were guest lecturers in Feynman's famous CalTech
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describes the linear theory of light wave propagation in plasmas, including linear mode conversion into plasma waves and collisional damping.

What is Fundamental? - Anthony Aguirre - 2019-03-21
Are there truly fundamental entities in nature? Or are the things that we regard as fundamental in our theories – for example space, time or the masses of elementary particles – merely awaiting a derivation from a new, yet to be discovered theory based on elements that are more fundamental? This was the central question posed in the 2018 FQXi essay competition, which drew more than 200 entries from professional physicists, philosophers, and other scholars. This volume presents enhanced versions of the fifteen award-winning essays, giving a spectrum of views and insights on this fascinating topic. From a prescription for “when to stop digging” to the case for strong emergence, the reader will find here a plethora of stimulating and challenging
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Fundamentals - Frank Wilczek - 2021-01-12
“Fundamentals might be the perfect book for the winter of this plague year. . . . Wilczek writes with breathtaking economy and clarity, and his pleasure in his subject is palpable.” —The New York Times Book Review One of our great contemporary scientists reveals the ten profound insights that illuminate what everyone should know about the physical world. In Fundamentals, Nobel laureate Frank Wilczek offers the reader a simple yet profound exploration of reality based on the deep revelations of modern science. With clarity and an infectious sense of joy, he guides us through the essential concepts that form our understanding of what the world is and how it works. Through these pages, we come to see our reality in a new way--bigger, fuller, and stranger than it looked before. Synthesizing basic
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**Fundamentals and New Frontiers of Bose-
Einstein Condensation** - Masahito Ueda -
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**Fundamentals and New Frontiers of Bose-Einstein Condensation** - Masahito Ueda - 2010-07-29
This book covers the fundamentals of and new developments in gaseous Bose-Einstein condensation. It begins with a review of fundamental concepts and theorems, and introduces basic theories describing Bose-Einstein condensation (BEC). It then discusses some recent topics such as fast-rotating BEC, spinor and dipolar BEC, low-dimensional BEC, balanced and imbalanced fermionic superfluidity including BCS-BEC crossover and unitary gas, and p-wave superfluidity.

**Questioning the Foundations of Physics** - Anthony Aguirre - 2015-01-24
The essays in this book look at ways in which the fundamentals of physics might need to be changed in order to make progress towards a unified theory. They are based on the prize-winning essays submitted to the FQXi essay competition “Which of Our Basic Physical Assumptions Are Wrong?”, which drew over 270 entries. As Nobel Laureate physicist Philip W. Anderson realized, the key to understanding nature’s reality is not anything “magical”, but the right attitude, “the focus on asking the right questions, the willingness to try (and to discard) unconventional answers, the sensitive ear for phoniness, self-deception, bombast, and conventional but unproven assumptions.” The authors of the eighteen prize-winning essays have, where
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Tin Chemistry - Marcel Gielen - 2008-09-15

Tin chemistry retains a place in contemporary science as an important element owing to its wide range of applications. New and exciting research is being generated on an annual basis from all parts of the world – the study of tin and its compounds attracts considerable interest from a range of perspectives such as organic synthesis, medicine, materials chemistry, catalysis and environment. Tin Chemistry – Fundamentals, Frontiers and Applications collects, in one comprehensive volume, authoritative and concise snapshots of modern tin chemistry in a full range of applications. Over forty of the leading tin chemistry experts have contributed reviews in six themes: fundamentals in tin chemistry materials chemistry and structural chemistry of tin compounds medicinal and biocidal applications of tin compounds tin in the environment tin in organic synthesis tin in catalysis Tin Chemistry - Marcel Gielen - 2008-09-15

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**Frontiers of Fundamental Physics and Physics Education Research** - Burra G. Sidharth - 2014-03-20

In a knowledge-based society, research into fundamental physics plays a vital role not only in the enhancement of human knowledge but also in the development of new technology that affects everyday life. The international symposium series brings together eminent scholars and researchers working in various areas in physics to exchange expertise, ideas, results, and new research perspectives. The twelfth such symposium, FFP12, took place at the University of Udine, Italy, and covered diverse fields of research: astrophysics, high energy physics and particle physics, theoretical physics, gravitation and cosmology, condensed matter physics, statistical physics, computational physics, and mathematical physics. Importantly, it also devoted a great deal of attention to physics education research, teacher training in modern physics, and popularization of physics. The high scientific level of FFP12 was guaranteed by the careful selection made by scientific coordinators from among 250 submissions from 28 countries across the world. During the three days of the conference, nine general talks were delivered in plenary sessions, 29 invited talks were given in specific topic areas, and 59 oral presentations.
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Modern Tools for Time-Resolved Luminescence Biosensing and Imaging - - 2021-09-01
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Frontiers in Fusion Research II - Mitsuru Kikuchi - 2015-09-03
This book reviews recent progress in our understanding of tokamak physics related to steady state operation, and addresses the scientific feasibility of a steady state tokamak fusion power system. It covers the physical principles behind continuous tokamak operation and details the challenges remaining and new lines of research towards the realization of such a system. Following a short introduction to tokamak physics and the fundamentals of steady state operation, later chapters cover parallel and perpendicular transport in tokamaks, MHD instabilities in advanced tokamak regimes, control issues, and SOL and divertor plasmas. A final chapter reviews key enabling technologies for steady state reactors, including negative ion source and NBI systems, Gyrotron and ECRF and structural materials for reactors. The tokamak has demonstrated an excellent plasma confinement capability with its symmetry, but has an intrinsic drawback with its pulsed operation with inductive operation. Efforts have been made over the last 20 years to realize steady state operation, most promisingly utilizing bootstrap current. Frontiers in Fusion Research II: Introduction to Modern Tokamak Physics will be of interest to graduate students and researchers involved in all aspects of tokamak science and technology.

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Frontiers and Progress of Current Soft
Matter Research - Xiang-Yang Liu - 2020-12-14
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**The Fundamentals of Modern Astrophysics** - Mikhail Ya Marov - 2014-11-11
The Fundamentals of Modern Astrophysics provides an overview of the modern science of astrophysics. It covers the Sun, Solar System bodies, exoplanets, stars, and star life cycle, planetary systems origin and evolution, basics of
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Fundamentals of Nuclear Physics - Noboru Takigawa - 2017-01-12
This book introduces the current understanding of the fundamentals of nuclear physics by referring to key experimental data and by providing a theoretical understanding of principal nuclear properties. It primarily covers the structure of nuclei at low excitation in detail. It also examines nuclear forces and decay
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