

Optics Bruno B Rossi Addison Wesley

This introductory text emphasizes Feynman's development of path integrals and its application to wave theory for particles. Suitable for undergraduate and graduate students of physics, the well-written, clear, and rigorous text was written by two of the nation's leading authorities on quantum physics. A solid foundation in quantum mechanics and atomic physics is assumed. Early chapters provide background in the mathematical treatment and particular properties of ordinary wave motion that also apply to particle motion. The close relation of quantum theory to physical optics is stressed. Subsequent sections emphasize the physical consequences of a wave theory of material properties, and they offer extensive applications in atomic physics, nuclear physics, solid state physics, and diatomic molecules. Four helpful Appendixes supplement the text. Dover (2014) republication of the edition originally published by Allyn and Bacon, Inc., Boston, 1970. See every Dover book in print at www.doverpublications.com

This book is dedicated to the consolidation and to the expansion of theoretic systems thinking as a necessary integration of the general reductionist and analytical attitude dominant in our culture. Reductionism and analytical approaches have produced significant results in many fields of contemporary knowledge giving a great contribution to relevant scientific discoveries and to their technological application, but their validity has been improperly universalized as the only and best methods of knowledge in every domain. It is nowadays clear that analytical or mereological approaches are inadequate to solve many problems and that we should introduce – or support the diffusion of - new concepts and different research attitudes. A good candidate to support such a shift is the well known theoretical approach based on the concept of “ system ” that no more considers the elementary constituents of an object, but the entity emerging from the relations and interactions among its elementary parts. It becomes possible to reconstruct several domains, both philosophical and scientific, from the systemic point of view, introducing fresh ideas in the research in view of a general rational vision of the world on more comprehensive basis. This book contributes to the diffusion and evolution of systemic thinking by focusing on two main objectives: developing and updating the systemic approach in disciplines currently using it and introducing the systemic perspective in humanistic disciplines, where the approach is not widely used. The Systemic Turn in Human and Natural Sciences: A Rock in the Pond is comprised of ten chapters. The chapter authors adopt a trans-disciplinary perspective, consisting in the recognition and harmonization of the special outlooks that together, within the general systemic paradigm, gives an ideal unity to the book.

Lasers and Applications

Optical Data Processing

Catalog of Recorded Books

Subject Catalog

Introduction to Optics

Includes entries for maps and atlases.

Introduction to Optics is now available in a re-issued edition from Cambridge University Press. Designed to offer a comprehensive and engaging introduction to intermediate and upper level undergraduate physics and engineering students, this text also allows instructors to select specialized content to suit individual curricular needs and goals.

Specific features of the text, in terms of coverage beyond traditional areas, include extensive use of matrices in dealing

with ray tracing, polarization, and multiple thin-film interference; three chapters devoted to lasers; a separate chapter on the optics of the eye; and individual chapters on holography, coherence, fiber optics, interferometry, Fourier optics, nonlinear optics, and Fresnel equations.

Spontaneously Generated Ion Acoustic Waves in a Weakly Ionized Plasma

The Systemic Turn in Human and Natural Sciences

Catalog of Copyright Entries. Third Series

Revista

Matemática y física teórica

Includes Part 1, Number 1 & 2: Books and Pamphlets, Including Serials and Contributions to Periodicals (January - December)

Introduction to the Physics of Fluids and Solids presents a way to learn continuum mechanics without mastering any other systems. It discusses an introduction to the principles of fluid mechanics. Another focus of study is the fluids in astrophysics. Some of the topics covered in the book are the rotation of the galaxy, the concept of stability, the fluids in motion, and the waves in fluids, the theory of the tides, the vibrations of the earth, and nuclear fission. The viscosity in fluids is covered. The flow of viscous fluids is discussed. The text identifies the general circulation of the atmosphere. An analysis of the general properties of solids is presented. A chapter of the volume is devoted to the applications of seismology. Another section of the book focuses on the flow of the blood and the urinary drop spectrometer. The book will provide useful information to doctors, physicists, engineers, students and researchers.

Fifteenth International Conference on Infrared and Millimeter Waves : 10-14 December 1990, Orlando, Florida

Introduction to the Physics of Fluids and Solids

Georgia Tech Library Notes

British Books in Print

Lasers and Light

This applications-oriented book covers a variety of interrelated topics under the study of optics. For physics and engineering, it covers lasers and fiber optics, emphasizing applications to the optics of vision. For optometry, it discusses the optics of the eye, geometrical optics, interference, diffraction, and polarization. **KEY TOPICS:** Emphasizing the optics of vision, the book presents a vital and interesting applications of optical principles. It also includes several specialized sections on vision: a history of vision and spectacles; the use of vergences to handle refraction of the eye; the use of vergence to handle errors in refraction of the eye; optics of cylindrical lenses and application to astigmatism; aberrations in vision; structures and optical models of the eye; and the use of lasers in therapy for ocular defects. **MARKET:** A valuable reference on optics for professional optometrists, physicists, and engineers.

Indexed entries geared to meeting the educational needs of a junior college in the fields of liberal arts and related studies

National Union Catalog

Optics and Vision

Through the Kaleidoscope

Books in Print

Waves

Two key words define the scope of this book: 'ultrasound' and 'colloids'. Historically, there has been little real communication between disciples of these two fields. Although there is a large body of literature devoted to ultrasound phenomenon in colloids, there is little recognition that such phenomena may be of real importance for both the development, and application, of Colloid Science. From the other side, colloid scientists have not embraced acoustics as an important tool for characterizing colloids. The lack of any serious dialogue between these scientific fields is the biggest motivation behind this book. For colloidal systems, ultrasound provides information on three important areas of particle characterization: Particle sizing, Rheology, and Electrokinetics. This book primarily targets scientists who consider colloids as their major object of interest. As such we emphasize those aspects of acoustics that are important for colloids, and thereby neglect many others. On the other hand, scientists working with ultrasound who are already familiar with the subject will find several important new developments.

Problems after each chapter

With Bibliography and Index

A Doodlebugger in Wonderland : ... Lecture Notes Prepared for Presentation to the Geographical Society of Houston as Part of the SEG Continuing Education Program, April 22-23, 1974

Conference Digest

An Introduction to the Classical Theory

AEC Technical Information Bulletin

In 1912 Victor Franz Hess made the revolutionary discovery that ionizing radiation is incident upon the Earth from outer space. He showed with ground-based and balloon-borne detectors that the intensity of the radiation did not change significantly between day and night. Consequently, the sun could not be regarded as the sources of this radiation and the question of its origin remained unanswered. Today, almost one hundred years later the question of the origin of the cosmic radiation still remains a mystery. Hess' discovery has given an enormous impetus to large areas of science, in particular to physics, and has played a major role in the formation of our current understanding of universal evolution. For example, the development of new fields of research such as elementary particle physics, modern astrophysics and cosmology are direct consequences of this discovery. Over the years the field of cosmic ray research has evolved in various

directions: Firstly, the field of particle physics that was initiated by the discovery of many so-called elementary particles in the cosmic radiation. There is a strong trend from the accelerator physics community to reenter the field of cosmic ray physics, now under the name of astroparticle physics. Secondly, an important branch of cosmic ray physics that has rapidly evolved in conjunction with space exploration concerns the low energy portion of the cosmic ray spectrum. Thirdly, the branch of research that is concerned with the origin, acceleration and propagation of the cosmic radiation represents a great challenge for astrophysics, astronomy and cosmology. Presently very popular fields of research have rapidly evolved, such as high-energy gamma ray and neutrino astronomy. In addition, high-energy neutrino astronomy may soon initiate as a likely spin-off neutrino tomography of the Earth and thus open a unique new branch of geophysical research of the interior of the Earth. Finally, of considerable interest are the biological and medical aspects of the cosmic radiation because of its ionizing character and the inevitable irradiation to which we are exposed. This book is a reference manual for researchers and students of cosmic ray physics and associated fields and phenomena. It is not intended to be a tutorial. However, the book contains an adequate amount of background materials that its content should be useful to a broad community of scientists and professionals. The present book contains chiefly a data collection in compact form that covers the cosmic radiation in the vicinity of the Earth, in the Earth's atmosphere, at sea level and underground. Included are predominantly experimental but also theoretical data. In addition the book contains related data, definitions and important relations. The aim of this book is to offer the reader in a single volume a readily available comprehensive set of data that will save him the need of frequent time consuming literature searches.

Publications and Theses

Optics

Collier's Encyclopedia

Technical and Scientific Books in Print

1957