Resonance Absorption In Nuclear Reactors International Series Of Monographs On Nuclear Energy Vol 4 Lawrence Dresner

Resonance Absorption of Neutrons in Nuclear Reactors Resonance Absorption in Nuclear Reactors Geometric Model from Microscopic Theory for Nuclear Absorption Nuclear resonant Absorption of gamma rays in _1hn1_1hn4 N and _1hn2_1hn8 Si Self-absorption of Monoenergetic Neutrons Nuclear Absorption Cross Sections for High-energy Protons Nuclear Reactor Theory Chemical Shifts in Nuclear Magnetic Resonance Absorption in Phosphorus Tables of Nuclear Cross Sections for Galactic Cosmic Rays Small Angle Scattering and Absorption of 5.7 GeV Negative Pions in Nuclear Emulsion Advances in Gamma Ray Resonant Scattering and Absorption An Introduction to Nuclear Reactor Theory Radiochemistry and Nuclear Chemistry Nuclear Acoustic Resonance Nuclear Resonance Absorption applied to precise measurements of nuclear magnetic moments and the establishment of an absolute energy scale in _B63-spectroscopy Lecture Series in Nuclear Physics Total Photon Absorption Cross Section Measurements, Theroretical Analysis and Evaluations for Energies Above 10 MeV Study of the Effect of Resonance Width on Resonance Absorption of Neutrons in Nuclear Reactions Uranium Analysis by Monochromatic X-ray Absorption Nuclear Engineering Monographs A Glossary of Terms in Nuclear Science and Technology Elements Of Nuclear Reactors Lecture Series on Nuclear Physics Applied Nuclear Physics Introduction to Nuclear Engineering The Elements of Nuclear Reactor Theory An Introduction to Reactor Physics Newnes Concise Encyclopaedia of Nuclear Energy Elements of Nuclear Reactor Engineering Intermediate-Energy Nuclear Physics Nuclear Analytical Chemistry: Analysis based on the interaction of nuclear radiation with matter Basic Nuclear Engineering Nuclear Radiation Measurement Nuclear Principles in Engineering QSO Absorption Lines Windowless Absorption Counter for Routine Energy Measurement of Soft Radiations Nitrogen Dioxide Absorption Coefficients at High Temperatures The Measurement of Nuclear Lifetimes by the Resonance Fluorescence Technique Nuclear Power Nuclear Radiation Physics

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Resonance Absorption in Nuclear Reactors Dec 06 2022

Nuclear Acoustic Resonance Nov 24 2021 Nuclear Acoustic Resonance serves as an introduction to the field of nuclear acoustic resonance and highlights its differences from nuclear magnetic resonance. Topics covered range from the nature of the coupling mechanisms, including dynamic electric quadrupole coupling and dynamic Alpher-Rubin coupling, to experimental techniques. The application of nuclear acoustic resonance to the study of conducting media is given consideration. This book consists of 10 chapters and begins with a description of nuclear acoustic resonance, nuclear magnetic resonance, and combination acoustic-electromagnetic spin resonance. A detailed treatment of nuclear electrostatic multipole interactions is presented, with emphasis on the irreducible tensor operators and their application to the calculation of nuclear acoustic resonance absorption and dispersion, as well as of line width and relaxation effects. An alternative approach that builds on the concepts of acoustic impedance and susceptibility for calculating absorption and dispersion in nuclear acoustic resonance is also presented. In an extension of the usual treatment of nuclear dipolar and nuclear quadrupolar interactions, the reader is introduced to appropriate expressions for nuclear acoustic coupling in solids via the dynamic hexadecapole moment. The final chapter explores the use of the Superconducting Quantum Interference Device (SQUID) in the detection of nuclear acoustic resonance. This book will be helpful to students and practitioners of physics and those interested in nuclear acoustic resonance.

Basic Nuclear Engineering May 07 2020

Introduction to Nuclear Engineering Dec 14 2020 Offering the most current and complete introduction to nuclear engineering available, this book contains new information on French, Russian, and Japanese nuclear reactors. All units have been revised to reflect current standards. Includes discussions of new reactor types including the AP600, ABWR, and SBWR as well as an extensive section on non-US design reactors; the nuclear Navy and its impact on the development of nuclear energy; binding energy and such topics as the semi-empirical mass formula and elementary quantum mechanics; and solutions to the diffusion equation and a more general derivation of the point kinetics equation. Topics in reactor safety include a complete discussion of the Chernobyl accident and an updated section on TMI and the use of computer codes in safety analysis. For nuclear engineers.

Lecture Series on Nuclear Physics Feb 13 2021

Nuclear Power Sep 30 2019 Originally published in 1961. This book gives the layman a better understanding of the nature of nuclear power and explains some of the major problems which have to be overcome in making practical use of it. It is concerned mainly with the different kinds of nuclear reactors – their underlying principles are explained and illustrated by reference to particular plants or design studies. Interested readers will find that the discussion of principles is full enough, and the range covered wide enough, to provide a broad view of the subject and a useful introduction to some more technical literature.

Lecture Series in Nuclear Physics Sep 22 2021

Nitrogen Dioxide Absorption Coefficients at High Temperatures Dec 02 2019 The absorption coefficient of nitrogen dioxide, NO2, is used in models of the fireball resulting from atmospheric nuclear detonations. This report gives values for the absorption coefficient obtained at wavelengths between 380 and 760 nm and at temperatures between 669 and 1313 K. The absorption coefficient varies from a maximum of about 1/10 cm near 400 nm to about 1 cm at the longest wavelength observed. The results agree with previously published data, which were available for only a few wavelengths, and provide a comprehensive data set over the temperature and wavelength regions studied. Comparison of these results is made with NO2 thermal emission intensities. (Author).

Self-absorption of Monoenergetic Neutrons Sep 03 2022

Uranium Analysis by Monochromatic X-ray Absorption Jun 19 2021

The Measurement of Nuclear Lifetimes by the Resonance Fluorescence Technique Oct 31 2019

Intermediate-Energy Nuclear Physics Jul 09 2020 Intermediate-Energy Nuclear Physics is devoted to discussing the interaction between hadrons with nuclei, which leads to the emission of particles during an intranuclear cascade and subsequent decay of a highly excited residual nucleus. Experimental data and the methods and results of the calculation of probabilities of various processes initiated by intermediate-energy hadrons in nuclei are set forth and discussed. The potential for obtaining information on the structure and properties of nuclei by comparing experimental data with theoretical results is analyzed. New issues, such as analytic methods for the solution of kinetic equations describing the cascade, nuclear absorption of hadrons from bound states of hadronic atoms, interaction of antinucleons with nuclei, multifragmentation of highly excited residual nuclei, and polarization phenomena, are discussed in detail. The book also demonstrates hadron-nucleus interactions that bridge the gap between low-energy and heavy ions physics. It is an interesting reference for nuclear physicists and other researchers interested in the analysis of problems associated with the evolution of the early (hot) universe, neutron stars and supernovas, after-burning of radioactive waste in nuclear energy installations, and electronuclear energy breeding.

Nuclear Engineering Monographs May 19 2021

QSO Absorption Lines Feb 02 2020 The controversial question of whether the majority of the narrow absorption lines observed in QSO spectra represent cosmological intervening systems or ejecta from the QSO themselves is settled. QSO absorption line spectroscopy, initially a mere technique, has matured into an essential extragalactic research tool for understanding the content of the Universe at redshifts between 0 and 4, and beyond. The only previous important meeting devoted to "QSO Absorption Lines" was held in May 1987 at the Space Telescope Science Institute in Baltimore, Maryland, U.S.A. Since that time, nearly a decade ago, research has been ex tremely active in this now well-established field of astrophysics. Theoretical stud ies and simulations have taken advantage of the constant progress in computer technology, and during these last few years, the observational results have bene fited largely from the new facillities offered by the Hubble Space Telescope in the UV wavelength range and the Keck Telescope for high-resolution spectroscopy.

Tables of Nuclear Cross Sections for Galactic Cosmic Rays Apr 29 2022 A simple but comprehensive theory of nuclear reactions is presented. Extensive tables of nucleon, deuteron, and heavy-ion absorption cross sections over a broad range of energies are generated for use in cosmic ray shielding studies. Numerous comparisons of the calculated values with available experimental data show agreement to within 3 percent for energies above 80 MeV/nucleon and within approximately 10 percent for energies as low as 30 MeV/nucleon. These tables represent

the culmination of the development of the absorption cross section formalism and supersede the preliminary absorption cross sections published previously in NASA TN D-8107, NASA TP-2138, and NASA TM-84636.

Study of the Effect of Resonance Width on Resonance Absorption of Neutrons in Nuclear Reactions Jul 21 2021

Newnes Concise Encyclopaedia of Nuclear Energy Sep 10 2020

Nuclear Absorption Cross Sections for High-energy Protons Aug 02 2022

The Elements of Nuclear Reactor Theory Nov 12 2020

Nuclear Principles in Engineering Mar 05 2020 Nuclear engineering plays an important role in various industrial, health care, and energy processes. Modern physics has generated its fundamental principles. A growing number of students and practicing engineers need updated material to access the technical language and content of nuclear principles. "Nuclear Principles in Engineering, Second Edition" is written for students, engineers, physicians and scientists who need up-to-date information in basic nuclear concepts and calculation methods using numerous examples and illustrative computer application areas. This new edition features a modern graphical interpretation of the phenomena described in the book fused with the results from research and new applications of nuclear engineering, including but not limited to nuclear engineering, power engineering, homeland security, health physics, radiation treatment and imaging, radiation shielding systems, aerospace and propulsion engineering, and power production propulsion.

Nuclear Analytical Chemistry: Analysis based on the interaction of nuclear radiation with matter Jun 07 2020

Applied Nuclear Physics Jan 15 2021

Windowless Absorption Counter for Routine Energy Measurement of Soft Radiations Jan 03 2020

Nuclear Resonance Absorption applied to precise measurements of nuclear magnetic moments and the establishment of an absolute energy scale in _B63-spectroscopy Oct 24 2021

Nuclear Radiation Physics Aug 29 2019

Nuclear resonant Absorption of gamma rays in _1hn1_1hn4 N and _1hn2_1hn8 Si Oct 04 2022

Elements of Nuclear Reactor Engineering Aug 10 2020

Geometric Model from Microscopic Theory for Nuclear Absorption Nov 05 2022

An Introduction to Reactor Physics Oct 12 2020

Advances in Gamma Ray Resonant Scattering and Absorption Feb 25 2022 This book presents the basics and advanced topics of research of gamma ray physics. It describes measuring of Fermi surfaces with gamma resonance spectroscopy and the theory of angular distributions of resonantly scattered gamma rays. The dependence of excited-nuclei average lifetime on the shape of the exciting-radiation spectrum and electron binding energies in the spectra of scattered gamma rays is described. Resonant excitation by gamma rays of nuclear isomeric states with long lifetime leads to the emission and absorption lines. In the book, a new gamma spectroscopic method, gravitational gamma spectrometry, is developed. It has a resolution hundred million times higher than the usual Mössbauer spectrometer. Another important topic of this book is resonant scattering of annihilation quanta by nuclei with excited states in connection with positron annihilation. The application of the methods described is to explain the phenomenon of Coulomb fragmentation of gamma-source molecules and resonant scattering of annihilation quanta to study the shape of Fermi surfaces of metals.

Resonance Absorption of Neutrons in Nuclear Reactors Jan 07 2023

Chemical Shifts in Nuclear Magnetic Resonance Absorption in Phosphorus May 31 2022

Small Angle Scattering and Absorption of 5.7 GeV Negative Pions in Nuclear Emulsion Mar 29 2022

An Introduction to Nuclear Reactor Theory Jan 27 2022

Nuclear Radiation Measurement Apr 05 2020

Nuclear Reactor Theory Jul 01 2022

Elements Of Nuclear Reactors Mar 17 2021 This book elements of nuclear reactors has been written to meet the requirement of the student of pass course, honours and post graduate students the subject matter of this book is presented in very straightforward matter. Nuclear reactors is a very important part of nuclear physics, having a broad field, we have try to maintain this field under the small volume according our best adherence. Contents: Interactions of Nuclear Radiation with Matter, Nuclear Reactions, Nuclear Models, Neutrons.

A Glossary of Terms in Nuclear Science and Technology Apr 17 2021

Total Photon Absorption Cross Section Measurements, Theroretical Analysis and Evaluations for Energies Above 10 MeV Aug 22 2021 Atomic photoabsorption cross sections have been calculated in the energy range from 10 MeV to 350 MeV. For Pb, Ta, Sn and Cu total y-ray absorption cross sections were measured between 10 MeV and 160 MeV and compared with the theoretical results. An estimate of the uncertainties in the calculated atomic cross sections is given.

Radiochemistry and Nuclear Chemistry Dec 26 2021 Origin of Nuclear Science; Nuclei, Isotopes and Isotope Separation; Nuclear Mass and Stability; Unstable Nuclei and Radioactive Decay; Radionuclides in Nature; Absorption of Nuclear Radiation; Radiation Effects on Matter; Detection and Measurement Techniques; Uses of Radioactive Tracers; Cosmic Radiation and Elementary Particles; Nuclear Structure; Energetics of Nuclear Reactions; Particle Accelerators; Mechanics and Models of Nuclear Reactions; Production of Radionuclides; The Transuranium Elements; Thermonuclear Reactions: the Beginning and the Future; Radiation Biology and Radiation Protection; Principles of Nuclear Power; Nuclear Power Reactors; Nuclear Fuel Cycle; Behavior of Radionuclides in the Environment; Appendices; Solvent Extraction Separations; Answers to Exercises; Isotope Chart; Periodic Table of the Elements; Quantities and Units; Fundamental Constants; Energy Conversion Factors; Element and Nuclide Index; Subject Index.