Basic Radiological Physics 1st Edition

Radiologic Physics - War Machine
The Physics and Technology of Radiation Therapy
Radiologic Physics Taught Through Cases
Hendee's Radiation Therapy Physics
Physics for Radiation Protection
Primer on Radiation Oncology Physics
An Introduction to Radiation Protection in Medicine
Radiobiology for the Radiologist
Radiation Physics for Medical Physicists
Physics for Radiation Protection
MDCT Physics: The Basics
Diagnostic Radiology Physics with MATLAB®
Basic Science of PET Imaging
Study Guide for Radiation Oncology Physics Board Exams
Radiation
Principles of Radiological Physics
Farr's Physics for Medical Imaging
Basic Radiological Physics
Fundamental Physics of Radiology
Textbook of Radiology Physics
Medical Imaging Physics
Elements of Modern X-ray Physics
The Physics of Radiology
Radiation Physics for Medical Physicists
Basic Radiation Oncology
FRCR Physics Notes
Assessment of the Scientific Information for the Radiation Exposure Screening and Education Program
Johns and Cunningham's the Physics of Radiology
Physics of Radiation Effects in Crystals
Khan's Lectures: Handbook of the Physics of Radiation Therapy
Review of Radiologic Physics
Radiation Physics for Nuclear Medicine
The Physics of Radiology and Imaging
Health Physics and Radiological Health
Physics for Diagnostic Radiology, Third Edition
Exercises with Solutions in Radiation Physics
Introduction to Radiological Physics and Radiation Dosimetry
Khan's The Physics of Radiation Therapy

Radiation Oncology Physics
The Physics of Radiation Therapy

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Radiologic Physics - War Machine IAEA
Gain mastery over the fundamentals of radiation oncology physics! This package gives you over 60 tutorial videos (each 15-20 minutes in length) with a companion text, providing the most complete and effective introduction available. Dr. Ford has tested this approach in formal instruction for years with outstanding results. The text includes extensive problem sets for each chapter. The videos include embedded quizzes and "whiteboard" screen technology to facilitate comprehension. Together, this provides a valuable learning tool both for training purposes and as a refresher for those in practice. Key Features A complete learning package for radiation oncology physics, including a full series of video tutorials with an associated textbook companion website Clearly drawn, simple illustrations throughout the videos and text Embedded quiz feature in the video tutorials for testing comprehension while viewing Each chapter includes problem sets (solutions available to educators)
The Physics and Technology of Radiation Therapy Medical Physics Publishing Corporation
In print since 1972, this seventh edition of Radiobiology for the Radiologist is the most extensively revised to date. It consists of two sections, one for those studying or practicing diagnostic radiolo, nuclear medicine and radiation oncology; the other for those engaged in the study or clinical practice of radiation oncology--a new chapter, on radiologic terrorism, is specifically for those in the radiation sciences who would manage exposed individuals in the event of a terrorist event. The 17 chapters in Section I represent a general introduction to radiation biology and a complete, self-contained course especially for residents in diagnostic radiology and nuclear medicine that follows the Syllabus in Radiation Biology of the RSNA. The 11 chapters in Section II address more in-depth topics in radiation oncology, such as cancer biology, retreatment after radiotherapy, chemotherapeutic agents and hyperthermia. Now in full color, this lavishly illustrated new edition is replete with tables and figures that underscore essential concepts. Each chapter concludes with a "summary of pertinent conclusions" to facilitate quick review and help readers retain important information.
Radiologic Physics Taught Through Cases Createspace Independent Publishing Platform
Combining facets of health physics with medicine, An Introduction to Radiation Protection in Medicine covers the background of the subject and the medical situations where radiation is the tool to diagnose or treat human disease. Encouraging newcomers to the field to properly and efficiently function in a versatile and evolving work setting,
Hendee's Radiation Therapy Physics Elsevier
This book summarizes basic knowledge of atomic, nuclear, and radiation physics that professionals need for efficient and safe use of ionizing radiation. Concentrating on the underlying principles of radiation physics, it covers prerequisite knowledge for medical physics courses on the graduate and post-graduate levels, providing the link between elementary physics on the one hand and the intricacies of the medical physics specialties on the other.
Physics for Radiation Protection Springer Science & Business Media
This book explains the principles, instrumentation, function, application and limitations of all radiological techniques – radiography, fluoroscopy, mammography, computed tomography, ultrasound and magnetic resonance imaging. Beginning with an introduction to the fundamental concepts, the following chapters provide in depth coverage of each of the techniques from the perspective of a medical physicist. Presented in an easy to read format, this book is an invaluable reference for postgraduate students in medical physics and radiology and candidates training for FRCR exams. It includes nearly 280 images, illustrations and tables to enhance learning. Key points Explains principles, instrumentation, function, application and limitations of all radiological techniques Presented from perspective of medical physicists Includes nearly 280 images, illustrations and tables Highly useful for postgraduates in medical physics and radiology, and FRCR candidates
Primer on Radiation Oncology Physics Lippincott Williams & Wilkins
This title is directed primarily towards health care professionals outside of the United States. The new edition has been fully updated to reflect the latest advances in technology and legislation and the needs of today's radiology trainees. Invaluable reading, particularly for those sitting the primary and final examinations of the Royal College of Radiology, UK, the book will also be of value to radiographers and personnel interested in medical imaging. The concise text is also accompanied by clear line drawings and sample images to illustrate the principles discussed. Closely matches needs of FRCR examination candidates. Updated to reflect changes to FRCR examination. More medically orientated. Covers new legislation concerning radiological safety etc. 'Must-know' summaries at end of each chapter. Completely new design.
An Introduction to Radiation Protection in Medicine Elsevier Health Sciences
Written by the chief physicist at Johns Hopkins University Hospital, this easy-to-read short textbook explains the physics behind multi-detector CT technology, particularly newer, more complex technology. The focus is on principles of physics, effects of scan parameters on image quality, and optimum radiation dosage. The book includes numerous key points summaries and questions to assist in exam preparation.
Radiobiology for the Radiologist Butterworth-Heinemann
This title is directed primarily towards health care professionals outside of the United States. It provides easy-to-follow and comprehensive coverage of all the essential principles of physics that undergraduate diagnostic radiography students need to know in order to operate diagnostic equipment more easily, effectively and safely. It also covers the basic physics that therapeutic radiographers require in order to provide optimal treatment to their patients. "Aims" at start of each chapter encapsulate chapter contents, and "Summaries" at end of each chapter highlight key points "Insights" and "definitions" throughout text expand and clarify content Self-test questions at end of each chapter and a detailed answer section at the end of the book facilitate learning. New chapter on orthovoltage

generators and linear accelerators increases coverage of radiotherapy physics New appendix on PET scanning More comprehensive appendices on ultrasound and CT scanning Chapter on magnetism substantially revised to include MRI Text updated to reflect latest technical changes such as the development of digital techniques with the potential to make greater use of teleradiology About 40 new illustrations to accompany new text

Radiation Physics for Medical Physicists Springer Science & Business Media

Expand your understanding of the physics and practical clinical applications of advanced radiation therapy technologies with Khan's The Physics of Radiation Therapy, 5th edition, the book that set the standard in the field. This classic full-color text helps the entire radiation therapy team—radiation oncologists, medical physicists, dosimetrists, and radiation therapists—develop a thorough understanding of 3D conformal radiotherapy (3D-CRT), stereotactic radiosurgery (SRS), high dose-rate remote afterloaders (HDR), intensity modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), Volumetric Modulated Arc Therapy (VMAT), and proton beam therapy, as well as the physical concepts underlying treatment planning, treatment delivery, and dosimetry. In preparing this new Fifth Edition, Dr. Kahn and new co-author Dr. John Gibbons made chapter-by-chapter revisions in the light of the latest developments in the field, adding new discussions, a new chapter, and new color illustrations throughout. Now even more precise and relevant, this edition is ideal as a reference book for practitioners, a textbook for students, and a constant companion for those preparing for their board exams. Features Stay on top of the latest advances in the field with new sections and/or discussions of Image Guided Radiation Therapy (IGRT), Volumetric Modulated Arc Therapy (VMAT), and the Failure Mode Event Analysis (FMEA) approach to quality assurance. Deepen your knowledge of Stereotactic Body Radiotherapy (SBRT) through a completely new chapter that covers SBRT in greater detail. Expand your visual understanding with new full color illustrations that reflect current practice and depict new procedures. Access the authoritative information you need fast through the new companion website which features fully searchable text and an image bank for greater convenience in studying and teaching. This is the tablet version which does not include access to the supplemental content mentioned in the text.

Physics for Radiation Protection CRC Press

Weaponize Your Will - The Remastered 2nd Edition Radiologic Physics War Machine is programed to seek and destroy trivia questions. The text is designed for mastery and rapid review - totally unique is scope, flavor and presentation.

MDCT Physics: The Basics Wiley-Liss

This text is an invaluable, comprehensive data reference for anyone involved in health physics or radiation safety. This new edition addresses the specific data requirements of health physicists, with data presented in large tables, including the latest NCRP recommendations, which are tabulated and given in both SI and traditional units for ease of use. Although portions of these data can be obtained from various internet sites, many are obscure, difficult to navigate and/or have conflicting information for even the most common data, such as specific gamma ray constants. This new edition compiles all essential data in this vast field into one user-friendly, authoritative source. It also offers a website with full-text search capability. Markets include radiation safety, medical physics and nuclear medicine

Diagnostic Radiology Physics with MATLAB® JP Medical Ltd

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.

Basic Science of PET Imaging Thieme

This book is intended as a textbook for a course in radiation physics in a- demic medical physics graduate programs. The book may also be of interest to the large number of professionals, not only physicists, who in their daily occupations deal with various aspects of medical physics and have a need to improve their understanding of radiation physics. Medical physics is a rapidly growing specialty of physics, concerned with the application of physics to medicine mainly, but not exclusively, in the - plication of ionizing radiation to diagnosis and treatment of human disease. In contrast to other physics specialties, such as nuclear physics, solid-state physics, and high-energy physics, studies of modern medical physics attract a much broader base of professionals including graduate students in me- cal physics, medical residents and technology students in radiation oncology and diagnostic imaging, students in biomedical engineering, and students in radiationsafetyandradiationdosimetryeducationalprograms.These prof- sionals have diverse background knowledge of physics and mathematics, but they all have a common desire to improve their knowledge of the physics that underlies the application of ionizing radiation in diagnosis and treatment of disease.

Study Guide for Radiation Oncology Physics Board Exams John Wiley & Sons

This is an outline of the fundamentals that every board exam candidate in the field of radiation oncology physics should know. It contains basic principles in the medical physics field and, although it is not a text, it provides a convenient guide for determining what areas may require further study. It covers both general physics and therapeutic radiological physics.

Radiation CRC Press

``Physics of Radiation Effects in Crystals'' is presented in two parts. The first part covers the general background and theory of radiation effects in crystals, including the theory describing the generation of crystal lattice defects by radiation, the kinetic approach to the study of the disposition of these defects and the effects of the diffusion of these defects on alloy compositions and phases. Specific problems of current interest are treated in the second part and include anisotropic dimensional changes in x-uranium, zirconium and graphite, acceleration of thermal creep in reactor materials, and radiation damage of semiconductors and

superconductors.
Principles of Radiological Physics John Wiley & Sons
William Hendee and Russell Ritenour's comprehensive text provides the tools necessary to be comfortable with the physical principles, technology concepts, equiment, and procedures used in diagnostic imaging, as well as to appreciate the technological capabilities and limitations of the discipline. Readers need not possess a background in physics. Broadly accessible, Medical Imaging Physics covers all aspects of image formation in modern medical imaging modalities, such as radiography, ultrasonography, computed tomopgraphy(CT), nuclear imaging, and magnetic resonance. Other topics covered include; Digital x-ray imaging Doppler ultrasound Helical CT scanning Accumulation and analysis of nuclear data Experimental radiobiology Radiation protection and safety
Farr's Physics for Medical Imaging Charles C. Thomas Publisher
The Radiation Exposure Compensation Act (RECA) was set up by Congress in 1990 to compensate people who have been diagnosed with specified cancers and chronic diseases that could have resulted from exposure to nuclear-weapons tests at various U.S. test sites. Eligible claimants include civilian onsite participants, downwinders who lived in areas currently designated by RECA, and uranium workers and ore transporters who meet specified residence or exposure criteria. The Health Resources and Services Administration (HRSA), which oversees the screening, education, and referral services program for RECA populations, asked the National Academies to review its program and assess whether new scientific information could be used to improve its program and determine if additional populations or geographic areas should be covered under RECA. The report recommends Congress should establish a new science-based process using a method called "probability of causation/assigned share" (PC/AS) to determine eligibility for compensation. Because fallout may have been higher for people outside RECA-designated areas, the new PC/AS process should apply to all residents of the continental US, Alaska, Hawaii, and overseas US territories who have been diagnosed with specific RECA-compensable diseases and who may have been exposed, even in utero, to radiation from U.S. nuclear-weapons testing fallout. However, because the risks of radiation-induced disease are generally low at the exposure levels of concern in RECA populations, in most cases it is unlikely that exposure to radioactive fallout was a substantial contributing cause of cancer.
Basic Radiological Physics John Wiley & Sons
This new edition has been fully revised to provide radiologists with the latest advances in radiological physics. Divided into six sections, the book begins with an overview of general physics, followed by a section on radiation physics. The remaining chapters cover physics of diagnostic radiology, physics of nuclear medicine, physics of radiation therapy, and radiological health and safety. The second edition features many new topics, recent advances and detailed explanations of complicated concepts. The comprehensive text is further enhanced by nearly 350 radiological images, diagrams and tables. Key points Fully revised new edition providing latest advances in radiological physics Second edition features new topics, recent advances and explanations of complicated concepts Highly illustrated with nearly 350 radiological images, diagrams and tables Previous edition (9788171798544) published in 2001
Fundamental Physics of Radiology JP Medical Ltd
A highly practical reference for health physicists and other professionals, addressing practical problems in radiation protection, this new edition has been completely revised, updated and supplemented by such new sections as log-normal distribution and digital radiography, as well as new chapters on internal radiation dose and the environmental transport of radionuclides. Designed for readers with limited as well as basic science backgrounds, the handbook presents clear, thorough and up-to-date explanations of the basic physics necessary. It provides an overview of the major discoveries in radiation physics, plus extensive discussion of radioactivity, including sources and materials, as well as calculational methods for radiation exposure, comprehensive appendices and more than 400 figures. The text draws substantially on current resource data available, which is cross-referenced to standard compendiums, providing decay schemes and emission energies for approximately 100 of the most common radionuclides encountered by practitioners. Excerpts from the Chart of the Nuclides, activation cross sections, fission yields, fission-product chains, photon attenuation coefficients, and nuclear masses are also provided. Throughout, the author emphasizes applied concepts and carefully illustrates all topics using real-world examples as well as exercises. A much-needed working resource for health physicists and other radiation protection professionals.
Textbook of Radiology Physics Lippincott Williams & Wilkins
This book provides a concise overview of the field of radiology physics and its application in everyday practice. Beginning with an introduction to the fundamental concepts and the basics of radiation, the following sections review different techniques, from X-Ray production and ultrasound, to Doppler, mammography, computed tomography, and nuclear medicine procedures. Further topics include complex magnetic resonance concepts, radiation exposure monitoring, single-photon emission computed tomography, and positron emission tomography. Enhanced by radiological images and illustrations, each chapter explains the principles, function, application and limitations of the radiological technique in question. Key points Concise review of the field of radiology physics Covers complete range of radiology techniques, from basic to more complex Principles, function, application and limitations of each technique explained in detail Includes radiological images and illustrations to enhance learning