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SANIYA ISSAC

Tropical Radioecology BoD – Books on Demand
Radiation and the effects of radioactivity have been known for more than 100 years. International research spanning this period has yielded a great deal of information about radiation and its biological effects and this activity has resulted in the discovery of many applications in medicine and industry including cancer therapy, medical diagnostics
Marie Curie Elsevier
Marie Curie was long idealized as a selfless and dedicated scientist, not entirely of this world. But Quinn's Marie Curie is, on the contrary, a woman of passion — born in Warsaw under the repressive regime of the Russian czars, outspokenly committed to the cause of a free Poland, deeply in love with her husband Pierre but also, after his tragic death, capable of loving a second time and of standing up against the cruel, xenophobic attacks which resulted from that love. This biography gives a full and lucid account of Marie and Pierre Curie’s scientific discoveries, placing them within the revelatory discoveries of the age. At the same time, it provides a vivid account of Marie Curie’s practical genius: the X-Ray mobiles she created to save French soldiers' lives during World War I, as well as her remarkable ability to raise funds and create a laboratory that drew researchers to Paris from all over the world. It is a story which transforms Marie Curie from an bloodless icon into a woman of passion and courage. "Quinn's portrait of Curie is rich and captivating. Quinn strives to peel back... layers of myth and idealization that have grown up around

the physicist... She succeeds beautifully. Quinn has written a worthy successor to her previous work, the award-winning biography of American psychiatrist Karen Horney." — Washington Post Book World (page 1) "A touching, three-dimensional portrait of the Polish-born scientist and two-time Nobel Prize winner." — Kirkus "I've read many biographies of Marie Curie and Susan Quinn's is magnificent. It's so complete and so evocative that I can't imagine anyone coming away from reading it without feeling they actually know Marie Curie." — Alan Alda "Quinn portrays a woman who was both independent and ambitious, in a society that was unprepared for either. The result is a fresh, powerful new biography of a very human Marie Curie... This is an exemplary work, rich in the details and connections that bring a person and her era to life. It is certain to be this generations' definitive biography of Marie Curie." — Science "Quinn breaks ground in her detailed description, drawn from newly available papers, of Marie's life after Pierre's accidental death in 1906. At first so grief-stricken she neglected her two daughters, Irene and Eve, Marie later had a love affair with French scientist Paul Langevin. Because Langevin was married, Marie was vilified by the French press and was almost denied the 1911 Nobel Prize for chemistry." —Publishers Weekly "Susan Quinn's excellent biography gives a lucid account of Curie's contribution to our understanding of 'things'... but Quinn also draws on new material to paint a more rounded and attractive picture of Curie the person... For Marie, the enchantment of her science never waned, and it is this enchantment which Quinn's biography communicates so well." — London Observer

Isotopes for Medicine and the Life Sciences Plunkett Lake Press

The old saying goes, ''To the man with a hammer, everything looks like a nail.'' But anyone who has done any kind of project knows a hammer often isn't enough. The more tools you have at your disposal, the more likely you'll use the right tool for the job - and get it done right. The same is true when it comes to your thinking. The quality of your outcomes depends on the mental models in your head. And most people are going through life with little more than a hammer. Until now. The Great Mental Models: General Thinking Concepts is the first book in The Great Mental Models series designed to upgrade your thinking with the best, most useful and powerful tools so you always have the right one on hand. This volume details nine of the most versatile, all-purpose mental models you can use right away to improve your decision making, productivity, and how clearly you see the world. You will discover what forces govern the universe and how to focus your efforts so you can harness them to your advantage, rather than fight with them or worse yet- ignore them. Upgrade your mental toolbox and get the first volume today. AUTHOR BIOGRAPHY Farnam Street (FS) is one of the world's fastest growing websites, dedicated to helping our readers master the best of what other people have already figured out. We curate, examine and explore the timeless ideas and mental models that history's brightest minds have used to live lives of purpose. Our readers include students, teachers, CEOs, coaches, athletes, artists, leaders, followers, politicians and more. They're not defined by gender, age, income, or politics but rather by a shared passion for avoiding problems, making better decisions, and lifelong learning. AUTHOR HOME Ottawa, Ontario, Canada

The Great Mental Models: General Thinking Concepts National

Academies Press
This book deals with gamma radiation in many fields, which encompasses diverse factors that affect human and animal life inside an environment. These fields include nuclear and medical physics, industrial processes, environmental sciences, radiation biology, radiation chemistry, radiotherapy, agriculture and forestry, sterilization, the food industry, and so on. The book covers an overview of gamma background radiations and measurements, radioactive decay, radioecological applications in environmental gamma dosimetry, gamma-ray interaction, monocolor gamma, influence of gamma radiation on dynamical mechanical properties, influence of low-dose gamma irradiation treatments on microbial decontamination, gamma-ray ionization enhancement in tissues, gas-filled surge arresters, modeling plastic deformation located in irradiated materials, radiotherapy, application of radiation and genetic engineering techniques, and gamma-ray measurements using unmanned aerial systems. This book is expected to benefit undergraduate and postgraduate students, researchers, teachers, practitioners, policy makers, and every individual who has a concern for a healthy life.
Radioactivity Radionuclides Radiation National Academies Press
A convenient source of radiation data which incorporates the changes dictated by present-day science and computer technology, presented with a high degree of uniformity, completeness, and consistency in both the data and appendices. Includes tables of adopted properties for all radiations emitted by nuclei, which were derived from experimental data plus reliable calculations, along with adopted properties based on statistical analyses of existing experimental data alone. Other derived adopted properties (e.g. average photon energies per disintegration) are calculated when strong user demand is anticipated. Over 260 drawings accompany the text.
Energy Technologies Explained Simply Penguin
Radioactive isotopes and enriched stable isotopes are used widely in medicine, agriculture, industry, and science, where their application allows us to perform many tasks more accurately, more simply, less expensively, and more quickly than would otherwise be possible. Indeed, in many cases--for example, biological tracers--there is no alternative. In a stellar example of "technology transfer" that began before the term was popular, the Department of Energy (DOE) and its predecessors has supported the development and application of isotopes and their transfer to the private sector. The DOE is now at an important crossroads: Isotope production has suffered as support for DOE's laboratories has declined. In response to a DOE request, this book is an intensive examination of isotope production and availability, including the education and training of those who will be needed to sustain the flow of radioactive and stable materials from their sources to the laboratories and medical care facilities in which they are used. Chapters include an examination of enriched stable isotopes; reactor and accelerator-produced radionuclides; partnerships among industries, national laboratories, and universities; and national isotope policy.
Nuclear and Particle Physics Discovery Publishing House
The book uses to help students that study nuclear physics. The book contains 242 tasks and solutions in different fields, involving nuclear physics such as accelerators (which accelerate the particles and calculate the relative mass and velocity of the

particle), nuclear reactors, nuclear fission inside the reactor core, radioactivity, decay of the particle such as alpha and beta, and gamma decay. Many tasks that include the radiation doses. The book uses many of concepts such as: binding energy, kinetic energy and radius of nuclei, wavelength of the particle such as electron, proton and neutron. There are tasks about the density of nuclear material, heat equilibrium and collision, which occur between these particles and nuclei of the target, produce by these collision two types of scattering, they are elastic and inelastic scattering of the particle. The angle of the scattering plays an important role in the calculation of kinetic energy and momentum. The book also includes appendix with tables of physical constants related to these tasks. This is includes a table of radioactive isotopes. Student can be used this book to help him to develop his acknowledge of the many topics related to nuclear energy in general, and especially nuclear physics.

Medical Isotope Production Without Highly Enriched Uranium National Academies Press

Written by established experts in the field, this book features in-depth discussions of proven scientific principles, current trends, and applications of nuclear chemistry to the sciences and engineering. • Provides up-to-date coverage of the latest research and examines the theoretical and practical aspects of nuclear and radiochemistry • Presents the basic physical principles of nuclear and radiochemistry in a succinct fashion, requiring no basic knowledge of quantum mechanics • Adds discussion of math tools and simulations to demonstrate various phenomena, new chapters on Nuclear Medicine, Nuclear Forensics and Particle Physics, and updates to all other chapters • Includes additional in-chapter sample problems with solutions to help students • Reviews of 1st edition: "... an authoritative, comprehensive but succinct, state-of-the-art textbook ...." (The Chemical Educator) and "...an excellent resource for libraries and laboratories supporting programs requiring familiarity with nuclear processes ..." (CHOICE)

Methods and Industrial Applications Elsevier

University Physics is designed for the two- or three-semester calculus-based physics course. The text has been developed to meet the scope and sequence of most university physics courses and provides a foundation for a career in mathematics, science, or engineering. The book provides an important opportunity for students to learn the core concepts of physics and understand how those concepts apply to their lives and to the world around them. Due to the comprehensive nature of the material, we are offering the book in three volumes for flexibility and efficiency. Coverage and Scope Our University Physics textbook adheres to the scope and sequence of most two- and three-semester physics courses nationwide. We have worked to make physics interesting and accessible to students while maintaining the mathematical rigor inherent in the subject. With this objective in mind, the content of this textbook has been developed and arranged to provide a logical progression from fundamental to more advanced concepts, building upon what students have already learned and emphasizing connections between topics and between theory and applications. The goal of each section is to enable students not just to recognize concepts, but to work with them in ways that will be useful in later courses and future careers. The organization and pedagogical features were

developed and vetted with feedback from science educators dedicated to the project. VOLUME III Unit 1: Optics Chapter 1: The Nature of Light Chapter 2: Geometric Optics and Image Formation Chapter 3: Interference Chapter 4: Diffraction Unit 2: Modern Physics Chapter 5: Relativity Chapter 6: Photons and Matter Waves Chapter 7: Quantum Mechanics Chapter 8: Atomic Structure Chapter 9: Condensed Matter Physics Chapter 10: Nuclear Physics Chapter 11: Particle Physics and Cosmology

Nuclear and Radiochemistry Inst of Physics Pub Incorporated

Spontaneous fission is a phenomenon exhibited by heavy nuclei, which can be a major mode of decay of nuclei of elements heavier than thorium and can be a determining factor in their stability. For purposes of this paper, spontaneous fission will be considered a process in which a nucleus breaks up into two approximately equal parts. The emission of light nuclei or heavy ions such as 12C, 16O, or 32S will not be considered. This radioactive decay mode is often much smaller than the spontaneous fission decay mode, although this is not true in all cases. Barwick noted that this might indicate that the assumed half-life for spontaneous fission of some older experiments might be partially due to heavy fragment radioactivity. Other than taking note of this potential correction to spontaneous fission half-lives, this decay mode of heavy fragment radioactivity will be ignored. Excited states of some heavy nuclei may decay via spontaneous fission. These so-called fission isomers will not be discussed here. Electron capture (EC) or beta-delayed fission is a process in which prompt fission of a sufficiently excited daughter state occurs following population by EC or beta decay. The fission activity will appear to decay with the half-life of the parent and was earlier confused in some cases with SF. This process has been discussed in detail in a review and will not be considered in this paper.

Table of Radioactive Isotopes Springer Science & Business Media

Radiochemistry or Nuclear Chemistry is the study of radiation from an atomic or molecular perspective, including elemental transformation and reaction effects, as well as physical, health and medical properties. This revised edition of one of the earliest and best known books on the subject has been updated to bring into teaching the latest developments in research and the current hot topics in the field. In order to further enhance the functionality of this text, the authors have added numerous teaching aids that include an interactive website that features testing, examples in MathCAD with variable quantities and options, hotlinks to relevant text sections from the book, and online self-grading texts. As in the previous edition, readers can closely follow the structure of the chapters from the broad introduction through the more in depth descriptions of radiochemistry then nuclear radiation chemistry and finally the guide to nuclear energy (including energy production, fuel cycle, and waste management). New edition of a well-known, respected text in the specialized field of nuclear/radiochemistry Includes an interactive website with testing and evaluation modules based on exercises in the book Suitable for both radiochemistry and nuclear chemistry courses

Springer Science & Business Media

This new edition of a very current interdisciplinary book covers both technical material and social issues, to give readers of all backgrounds a sense of the overall implications of the arms race.

Weapons are the primary focus of the book, with the history of their development and nuclear politics included in the introductory chapters. There is a thorough discussion of global nuclear exchange, which considers the consequences of an all-out nuclear war, the psychological impact of the threat and actual nuclear war; the atomic bombings of Japan; and the biological effects of radiation from nuclear weapons.

Radiochemistry and Nuclear Chemistry The Great Mental Models: General Thinking ConceptsThe old saying goes, ''To the man with a hammer, everything looks like a nail.'' But anyone who has done any kind of project knows a hammer often isn't enough. The more tools you have at your disposal, the more likely you'll use the right tool for the job - and get it done right. The same is true when it comes to your thinking. The quality of your outcomes depends on the mental models in your head. And most people are going through life with little more than a hammer. Until now. The Great Mental Models: General Thinking Concepts is the first book in The Great Mental Models series designed to upgrade your thinking with the best, most useful and powerful tools so you always have the right one on hand. This volume details nine of the most versatile, all-purpose mental models you can use right away to improve your decision making, productivity, and how clearly you see the world. You will discover what forces govern the universe and how to focus your efforts so you can harness them to your advantage, rather than fight with them or worse yet- ignore them. Upgrade your mental toolbox and get the first volume today. AUTHOR BIOGRAPHY Farnam Street (FS) is one of the world's fastest growing websites, dedicated to helping our readers master the best of what other people have already figured out. We curate, examine and explore the timeless ideas and mental models that history's brightest minds have used to live lives of purpose. Our readers include students, teachers, CEOs, coaches, athletes, artists, leaders, followers, politicians and more. They're not defined by gender, age, income, or politics but rather by a shared passion for avoiding problems, making better decisions, and lifelong learning. AUTHOR HOME Ottawa, Ontario, CanadaRadioactivity And Radioactive Decay

Tropical Radioecology is a guide to the wide range of scientific practices and principles of this multidisciplinary field. It brings together past and present studies in the tropical and sub-tropical areas of the planet, highlighting the unique aspects of tropical systems. Until recently, radioecological models for tropical environments have depended upon data derived from temperate environments, despite the differences of these regions in terms of biota and abiotic conditions. Since radioactivity can be used to trace environmental processes in humans and other biota, this book offers examples of studies in which radiotracers have been used to assess biokinetics in tropical biota. Features chapters, co-authored by world experts, that explain the origins, inputs, distribution, behaviour, and consequences of radioactivity in tropical and subtropical systems. Provides comprehensive lists of relevant data and identifies current knowledge gaps to allow for targeted radioecological research in the future. Integrates radioecological information into the most recent radiological consequences modelling and best-practice probabilistic ecological risk analysis methodology, given the need to understand the implications of enhanced socio-economic development in the world's tropical regions.

Modern Nuclear Chemistry CreateSpace
This book is the product of a congressionally mandated study to examine the feasibility of eliminating the use of highly enriched uranium (HEU2) in reactor fuel, reactor targets, and medical isotope production facilities. The book focuses primarily on the use of HEU for the production of the medical isotope molybdenum-99 (Mo-99), whose decay product, technetium-99m3 (Tc-99m), is used in the majority of medical diagnostic imaging procedures in the United States, and secondarily on the use of HEU for research and test reactor fuel. The supply of Mo-99 in the U.S. is likely to be unreliable until newer production sources come online. The reliability of the current supply system is an important medical isotope concern; this book concludes that achieving a cost difference of less than 10 percent in facilities that will need to convert from HEU- to LEU-based Mo-99 production is much less important than is reliability of supply.
Spontaneous Fission Half-lives and Their Systematics Cambridge University Press
An introductory course on nuclear and particle physics for undergraduate and early-graduate students. It covers the fundamentals of both nuclear and particle physics, giving emphasis to the discovery and history of developments in the field, and is experimentally/phenomenologically oriented.
Environmental Tracers in Subsurface Hydrology University-Press.org
Offers basic data on more than 3,600 radionuclides. Emphasizes practical application such as basic research, acheo0logy and dating, medical radiology and industrial. Balanced and informative details on the biological effects of radiation and resultant controversy. Trimmed down student version of a product that costs many times the price.
Radioactivity Wiley-VCH
Nuclear Power Technologies Explained Simply is your one-stop resource for understanding everything related to Nuclear Power. This book is designed for citizens and policy-makers who want to become more fully informed regarding the science and technology of nuclear power.All aspects of nuclear technology are explained simply enough for any reader to understand. At the same time, enough detail and data is provided for the reader to make intelligent decisions.Within this book you will find answers to all of your questions related to nuclear power, including:•How do nuclear power plants work? •What are the main components and design options of nuclear power plants?•What exactly happened at Three Mile Island, Chernobyl, and Japan?•How do we make nuclear power plants safer?•How dangerous is each type of radioactivity?•What do the units of radioactive decay mean?•How do we store nuclear waste safely for thousands of years?•and many other questions related to nuclear power.In addition, this book provides extensive data tables related to nuclear power. This is the most comprehensive and complete collection of data related to nuclear power currently available. Types of data include:•Complete list of radioactive isotopes, including decay type, new atom created, and half-life.•Complete list of half-lives for all radioactive isotopes, listed in order of decay time.•Decay sequences for multiple decay isotopes.•Melting points of nuclear fuel and fuel rods.•Dosage of absorbed radioactive decay and the resulting effect on human

health.•Suggested Nuclear Standards from ANS and NRCNuclear Power Technologies Explained Simply consists of the following chapters: 7.1 Overview of Nuclear PowerExplains the basic types of nuclear reactors and how they work. 7.2 Creation of EnergyExplains how nuclear fuel is converted into energy. 7.3 Operation of Nuclear Power PlantsDiscusses the operation of nuclear power plants, types of nuclear reactors, main components and design options.7.4 Science of Meltdowns and ExplosionsExplains the science of meltdowns and explosions in great detail. 7.5 Three Mile IslandExplains the event in a series of steps which are easy to follow, supplemented by analysis of the incident.7.6 ChernobylExplains the event in a series of steps, supplemented by analysis of the incident.7.7 Fukushima JapanExplains the event in a series of steps, supplemented by analysis of the incident.7.8 Making Nuclear Power Plants SaferLearn all of the most important techniques for making nuclear power plants safer. 7.9 By-Products and RadioactivityExplains the science of radioactivity, including characteristics and process of each type of decay. Discusses the practical implications of different half-life values.7.10 Health Issues of Radioactive DecayExamines every aspect of radioactive decay on human health, including routes of entry, penetration, mechanisms of each type of decay on the cells, and overall health dangers. 7.11 Measuring RadiationAll units of radiation measurements are defined and explained, with additional notes that may help the reader. Units of measurement in context.Quick guide to the dosage of radioactivity and the resulting biological effects.Discusses devices such as Geiger Counter and Film Badge. 7.12 Storing Nuclear WasteSteps required to store nuclear waste for long periods of timePossible dangers to the stored nuclear waste followed by methods to minimize those dangers.Examines in the Yucca Mountain site in great detail, focusing on the geology and the design of the facility. Comprehensive Data in the Appendix: Data was compiled from multiple sources. Therefore in this resource you have a very comprehensive set of data on radioactive decay. In total, this book is the ultimate resource for citizens and decision makers on nuclear power technology. This book will guide you through all the science and answer all of your questions.

Fundamentals of Rock Physics CRC Press

This book presents part two of the research results of an eight-year project titled Radioisotopes and the Age of the Earth (RATE). A previous volume presenting part one of the research was published in 2000, titled Radioisotopes and the age of the Earth : a young-earth creationist research initiative. RATE Project sponsors included Institute for Creation Research and Creation Research Society, with start-up support from Answers in Genesis Ministries. Researchers included seven scientists and one biblical Hebrew scholar: Dr. Steven A. Austin, Dr. Andrew Snelling, Dr. John Baumgardner, Dr. Eugene F. Chaffin, Dr. Donald B. DeYoung, Dr. Russell Humphreys, Dr. Larry Vardiman and Dr. Steven W. Boyd.

Physics and Engineering of Radiation Detection Elsevier

Introducing the physical principles of rock physics, this upper-level textbook includes problem sets, focus boxes and MATLAB exercises.

Introduction and History, From the Quantum to Quarks Elsevier

A recipient of the PROSE 2017 Honorable Mention in Chemistry &

Physics, Radioactivity: Introduction and History, From the Quantum to Quarks, Second Edition provides a greatly expanded overview of radioactivity from natural and artificial sources on earth, radiation of cosmic origins, and an introduction to the atom and its nucleus. The book also includes historical accounts of the lives, works, and major achievements of many famous pioneers and Nobel Laureates from 1895 to the present. These leaders in the field have contributed to our knowledge of the science of the atom, its nucleus, nuclear decay, and subatomic particles that are part of our current knowledge of the structure of matter, including the role of quarks, leptons, and the bosons (force carriers). Users will find a completely revised and greatly expanded text that includes all new material that further describes the significant historical events on the topic dating from the 1950s to the present. Provides a detailed account of nuclear radiation – its origin and properties, the atom, its nucleus, and subatomic particles including quarks, leptons, and force carriers (bosons) Includes fascinating biographies of the pioneers in the field, including captivating anecdotes and insights Presents meticulous accounts of experiments and calculations used by pioneers to confirm their findings