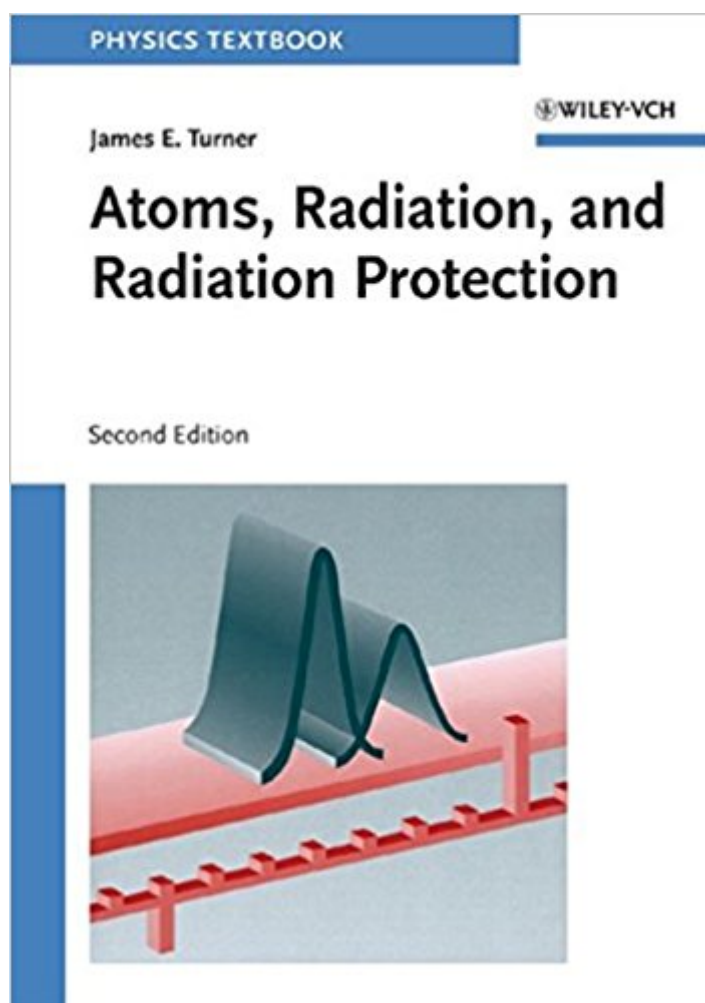


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Atoms, Radiation, And Radiation Protection, 2nd Edition



Synopsis

This thoroughly updated and expanded edition features two new chapters on statistics for health physics and on environmental radioactivity, particularly concerning radon and radon daughters. Fresh material includes: a derivation of the stopping-power formula for heavy charged particles in the impulse approximation, a detailed discussion of beta-particle track structure and penetration in matter, an extensive description of the various interaction coefficients for photons, several new worked examples and additional end-of-chapter problems.

Book Information

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Customer Reviews

From Reviews of the Second Edition:"What can I say? The second edition of 'Atoms, Radiation, and Radiation Protection' is much better than the first edition, and the first edition was great. [...] It is [...] one of the finest graduate-level texts on radiation protection. For someone teaching a graduate course on radiation protection, this is a 'must have' book. [...] Everything you might want or need on the road to understanding radiation interaction is clearly and concisely handled. [...] Don't think this is a book for graduate students and teachers alone, however; it is a fine reference for anyone working in radiation protection."Physics Today"The strength of the book lies in its unique analyses of fundamental particle track structure, including Monte Carlo computations, the detail of the important stochastic nature of the interactions, manifest in microdosimetry, and their consequences in radiobiological effects of setting up the criteria for radiation protection."Radiation

and Environmental Biophysics" This book is an excellent text for graduate students in health physics, as it contains an appropriately detailed discussion about atomic and nuclear physics for such students. [...] Major strengths of the book are that it contains rigorous discussions about radioactive decay, interaction of radiation with matter, statistics of counting and methods for shielding calculations. The Journal of Nuclear Medicine -- This text refers to an alternate Hardcover edition.

Atoms, Radiation, and Radiation Protection offers professionals and advanced students a comprehensive background in the major concepts of radiation and radiation protection. Covering both the basic physics of radiation and its applications, it provides a lucid and coherent account of the origins and properties of the different kinds of ionizing radiation, its detection and measurement, and the procedures used to protect people and the environment from its harmful effects. This book illustrates the basic physical principles with an abundance of practical, worked-out examples, numerical problems, real world applications, and data. This thoroughly updated Second Edition includes expanded treatment of biological effects, radon, risk assessment, and statistics. Researchers, administrators, and graduate students in health physics, environmental sciences, nuclear engineering, medical physics, and other fields involved with ionizing radiation will find Atoms, Radiation, and Radiation Protection an invaluable guide to a vitally important area.

Most of the topics (basic radiation physics, detection, interaction with matter) in this book are covered in more depth in other texts (Krane, Knoll), but this book does a good job at covering the specific topics having more to do with human interaction. However, this is only ~1/2 of the whole book.

The book is outstanding. The problems are great. Do not need another book to understand this book.

Solid and practical, purchased for graduate course in radiation transport

I think this book it's a very deep and complete guide about the application of physics to medicine. I recommend this book to the student and to the teacher .

great

This is a must have book if you work in the Health Physics world! RIP Jim Turner.

I haven't fully looked at the book yet, but so far it seems not bad

This text by James Earl Turner, Ph.D., M.S.(physics), M.S. (Industrial Hygiene), Certified by American Board of Health Physics), is a relatively concise but thorough treatment of the underpinning results of physics necessary for professional work in the field of protecting workers, the public, and the environment from harmful effects of ionizing or nuclear radiations. I have used this text as a secondary text to that of Herman Cember's text in other courses, and am now using it as the principal required reading for a course in Nuclear Environmental Protection (NEP520) in the Spring semester at The Catholic University of America, in Washington, DC, 2013. Dr. Turner, at his passing a couple of years ago, was probably the greatest theoretical physicist in the field of radiation protection at the time of his death, and also interested in teaching the practical information needed for the typical health physicist in performing duties related to the assessment of radiation doses and risks and providing protection against undue exposures. There is a 3rd edition that has been published. I am teaching from the second edition, so one should be sure which edition is desired and being purchased. Used 2nd editions should provide all the basics needed for adequate professional work. Sincerely, Allen Brodsky, Sc.D. Adjunct Professor, faculty of Catholic U, and Georgetown U in Washington, DC. January 27, 2013

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