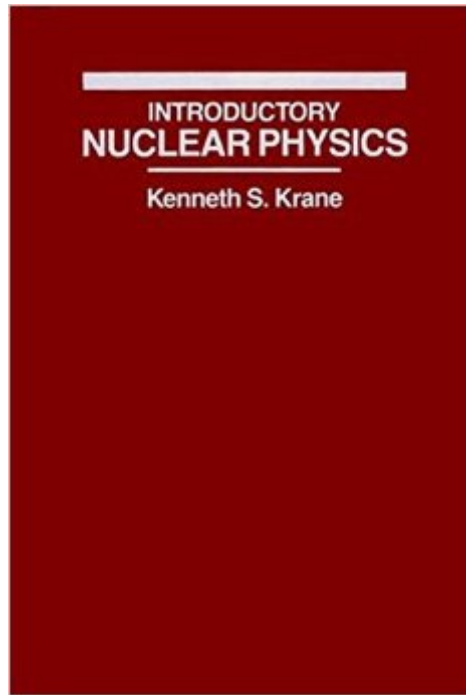


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Introductory Nuclear Physics



Synopsis

This comprehensive text provides an introduction to basic nuclear physics, including nuclear decays and reactions and nuclear structure, while covering the essential areas of basic research and practical applications. Its emphasis on phenomenology and the results of real experiments distinguish this from all other texts available. Discussions of theory are reinforced with examples which illustrate and apply the theoretical formalism, thus aiding students in their reading and analysis of current literature. The text is designed to provide a core of material for students with minimal background in mathematics or quantum theory and offers more sophisticated material in separate sections.

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Customer Reviews

I used this book for my Int. to Nuc. Phys. course in my undergraduate studies. I had a bad professor, you couldn't understand anything from him, and then I found this book. This book is an EXCELLENT introduction to nuclear physics. It covers all major topics, and the explanations are clear and readable, and INTERESTING to read. You should have a grasp of undergraduate Quantum Mechanics for this book, however. The book starts with a quick overview of all relevant QM results so you can consult the first few chapters if you forgot something. A great book. BTW there is a little typo in the shell model scheme of energy levels, but I don't remember exactly as it was over a year ago. However, be advised that one of the levels is wrong. But you can easily find it out - I did.

I bought this book for second and third year Nuclear Physics, and it was invaluable in explaining, in

plain speak, some complex topics. A very good compliment to our "hand-wavy-theorist" lecturer. Along with its clear explanations, it provides useful snippets from seminal journal publications highlighting the developments behind our current understanding. However, while it lays an excellent foundation for a broad understanding of the field, the material is getting long in the tooth. Theory has moved on a bit in recent times, some gaps are beginning to appear and this book is no longer enough for advanced third year studies. To get 5 stars this book would need a new edition. The same, however, can be said of many texts in nuclear physics and related fields. In short, if you are studying nuclear physics at undergrad level, this book is still one of the best at giving the basics in plain english, without treating the reader like an idiot.

I graduated from Hacettepe University, Nuclear Engineering Department in Turkiye. In the 2nd class, we studied Nuclear Physics and read Krane's text book. However, though it was a text book, I used it as a reference guide many times and have still been using. Want to thank for presenting such a worthy book into the life of education.

I bought this book during my BS degree and used it up to my PhD level studies. Good resource book, very easy for beginners on this topic (nuclear physics). Easy to read and probably almost no instructor needed. For each chapter there is number of problems that help the reader to test its understanding and graduate in difficulty. It has multiple units (basic structure, radioactivity, nuclear reactions, applications [meson physics, particle physics, nuclear astrophysics, very brief sections on diagnostic and therapeutic nuclear medicine]).

I liked this book. The material was fairly well-organized, and very clearly presented. Many topics were covered including Quantum Mechanics, Nuclear Astrophysics, Nuclear Medicine, and more. Anyone who has had an introduction to modern physics can handle this book. It is very readable and presents much of the history as it covers the theoretical ideas. Also I thought it had a very good looking cover, and the appendices are very useful for reference.

This text was exactly as described. This text is used in many universities in North America. I had an course outline for the course the material covered and the text appeared to cover all learning objectives by looking at the table of contents. Unfortunately my class was cancelled due to lack of participants at enrollment.

This is not the first good book that Krane did make, he had many before! This book is excellent for any beginner wishing to study or know something about nuclear physics, but the level of the text somehow is advanced that I might say it is for MSc. students more than Bachelor, but everyone can do well at least just for reading to satisfy the interest. It has some questions after each chapter, but no answers at the back, but the author tries (as I felt in some questions) to make you make your own impression and thought about some topics even though you are wrong and makes you sense the real environment of the labs and how data are analyzed. After all, it is a good book indeed.

This book does a great job explaining things so you don't get overwhelmed with equations. A few details are left out, which can be a little confusing, but overall a great book!

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