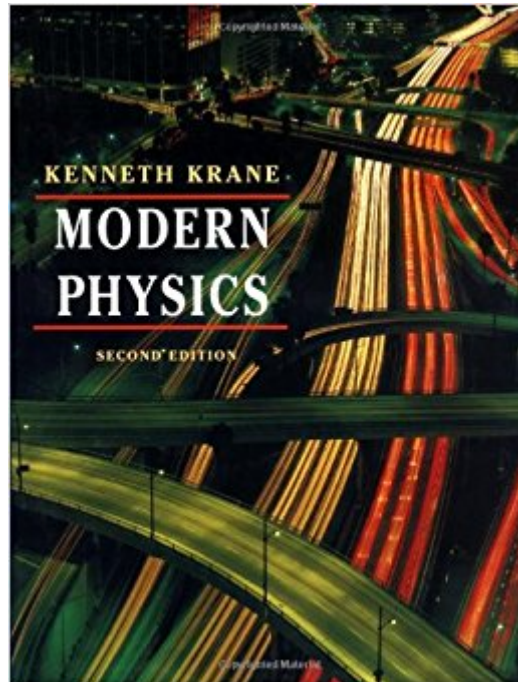




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# Modern Physics



## Synopsis

Bring Modern Physics to Life with a Realistic Software Simulation! Enhance the thorough coverage of Krane's Modern Physics 2e with hands-on, real-world experience! Modern Physics Simulations, developed by the Consortium for Upper-Level Physics Software (CUPS), offers complex, realistic calculations of models of various physical systems. Like all of the CUPS simulations, it is remarkably easy to use, yet sophisticated enough for explorations of new ideas. Important Features Include: \* Powerful simulations covering Historic Experiments in Electron Diffraction, Laser Cavities & Dynamics, Classical Scattering, Nuclear Properties & Decays, Special Relativity, Quantum Mechanics, and the Hydrogen Atom & the  $H_2^+$  Molecule. \* Pascal source code for all programs and a number of exercises suggesting specific ways the programs can be modified. \* Graphical (often animated) displays in most simulations. The entire CUPS simulation series consists of nine books/software simulations which cover Astrophysics, Electricity and Magnetism, Classical Mechanics, Modern Physics, Quantum Mechanics, Nuclear and Particle Physics, Solid State Physics, Thermal and Statistical Physics, and Waves and Optics.

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Unlike most in my class I do actually read the books whenever possible. It helps to get multiple explanations for the same material to help me understand and solidify the concepts of it. This book offered a nice additional source of information after the lectures. I didn't do any reading of subjects before they were covered though, so it may be not be as good for someone who want's to learn ahead of time.

Great for reference and reviewing...

Really liked the approach in this text! Integrated the historical development of key theories and principles throughout the text. Math was basic and easily understood. Great text from which to draw examples for a introductory physics or nuclear engineering course. Highly recommend!

Very frustrating book to use. The question/problem sections contain exercises that the book does not even come close to providing the answers for. Text is generally unclear about units. Tries to be hand-wavy, but ends up being unspecific.

My professor used this book for a modern physics courses. The book is decent, but the downfall is that Krane does not provide enough theory/mathematical derivations of the equations to truly understand the concepts. His derivation of the Schrodinger equation was pathetic. This is disappointing because the physics is mathematically beautiful. All the material before then (Ch 5) was pretty good. I used the book Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles (2nd Edition) in conjunction with this book. Eisberg's book really helped me grasp the fundamental concepts and mathematical derivations. If you are stuck with Krane for your modern physics course I would highly recommend getting Eisberg's book (as a warning, Eisberg's book will

take a lot of time to get through. It's wordy and includes very extensive mathematics through differential calculus and some complex analysis). You can also check out Fundamentals of Modern Physics by Eisberg, which probably would be more relevant than the Quantum Physics textbook I used (in the preface, the author claims they are essentially the same). Both books together will properly prepare you for your future quantum mechanics courses.

Overall not a bad textbook, the topics expected are well covered for the most part. My largest complaint would be that the book contains a lot of historical "filler" material, much of it not particularly relevant to the subject at hand. Also, the author has a very bad habit of simply skipping crucial and complex mathematical steps in the solved examples. It often reads as we start with equation A, then some magic happens, and we get equation B. This would probably be fine in a graduate level book, but for a book that is being used by students who have probably taken calculus only a couple of semesters ago, this can make some of the math in the book very hard to follow. Additionally, and it may just be that I got a bad copy, within less than 3 months of normal use, the binding at the spine has begun to come apart. I don't know if this is endemic with the printer involved, or whether I just got unlucky, but this is a fairly expensive book to only have a 3 month life span.

Awesome quick reference on the subject for the price

I wasn't a fan of the book's layout. The few examples were put at the end of the chapter so you'd have to flip back and forth.

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