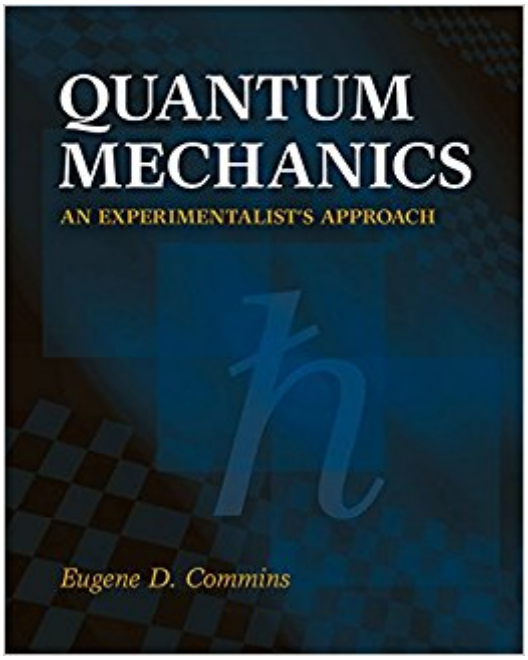
Quantum Mechanics: An Experimentalist's Approach



Synopsis

Eugene D. Commins takes an experimentalist's approach to quantum mechanics, preferring to use concrete physical explanations over formal, abstract descriptions to address the needs and interests of a diverse group of students. Keeping physics at the foreground and explaining difficult concepts in straightforward language, Commins examines the many modern developments in quantum physics, including Bell's inequalities, locality, photon polarization correlations, the stability of matter, Casimir forces, geometric phases, Aharonov-Bohm and Aharonov-Casher effects, magnetic monopoles, neutrino oscillations, neutron interferometry, the Higgs mechanism, and the electroweak standard model. The text is self-contained, covering the necessary background on atomic and molecular structure in addition to the traditional topics. Developed from the author's well-regarded course notes for his popular first-year graduate course at UC Berkeley, instruction is supported by over 160 challenging problems to illustrate concepts and provide students with ample opportunity to test their knowledge and understanding.

Book Information

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Customer Reviews

A self-contained introduction to help graduate and advanced undergraduate students in physics and related sciences acquire serious knowledge and understanding of quantum mechanics. Based on the author's popular course at UC Berkeley, it takes an experimentalist's approach, discussing many modern developments in addition to the traditional topics.

Eugene D. Commins is Professor Emeritus at the Department of Physics, University of California,

Berkeley, where he has been a faculty member since 1960. His main area of research is experimental atomic physics. He is a member of the National Academy of Science and a Fellow of the AAAS, and he has been awarded several prizes for his teaching, including the AAPT's Ãˆrsted Medal in 2005, its most prestigious award for notable contributions to physics teaching. He is the author (with Philip H. Bucksbaum) of the monograph Weak Interactions of Leptons and Quarks (Cambridge University Press, 1983).

Excellent!

Unusually clear and interesting to read. Covers a lot of ground.

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