Quantum Mechanics



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Starting from basic principles, the book systematically covers both Heisenberg and SchrAdinger realizations of quantum mechanics (in this order). The material traditionally presented in quantum textbooks is illustrated with applications which are (or will become) cornerstones of future technologies. The emphasis in the matrix formulation focus the attention on the spin, the most important quantum observable, and paves the way to chapters on quantum information (including crytography, teleportation and computation), on recent tests of quantum physics and on decoherence. Additions and changes found in the second edition include; a more friendly presentation to Hilbert spaces; more practical applications e.g. scanning tunneling microscope (potential barrier); quantum dots (single-particle states in semiconductors); lasers and masers (induced emission); real experiments that have recently provided a qualitative change in the foundations of quantum physics; and an outline of the density matrix formalism as applied to a simple model of decoherence. From reviews of the first edition: "Daniel Bes clearly understands that accuracy, clarity and brevity a] has therefore made a careful selection of the topics to make an accessible concise book on quantum mechanics for a modern introductory undergraduate course... The claims that this is a modern textbook are well justified by the inclusion of a] the flow of the main ideas is not unbalanced by laborious detail."

Contemporary Physics "It is concise but covers an extraordinary range of topics, from those typically found in traditional quantum mechanics textbooks a] All this is illustrated with examples that cover a wide range a] provides a large amount of information per page and the selection, extension and balance of topics is adequate for an introductory course." Mathematical Reviews
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标签
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Quantum
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评论
非相对论的量子力学,内容有些新的东西,但是普遍过于简略,无法真正的使用和理解,适合初学者。不是演绎系统,也同时没有具体针对计算问题进行思考

书评

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