
Quantum Mechanics

A feeling is rapidly crystallizing itself among the physicists in our colleges and universities that a graduate student should as early as possible be given an introductory knowledge to quantum mechanics in order that he may make use of it in his other work. Recognition of the fact that classical physics is inadequate for the treatment of problems throughout atomic and molecular physics almost forces this point of view upon one. One is moreover nearly compelled to recognize that to the beginner it is more important to make use of the formulation of the new mechanics to work out problems in modern physics than it is to know the entire philosophical background for it. The student in elementary physics is not at once taught the philosophical structure underlying the Newtonian mechanics, but is made to work problems concerning pulleys and levers. It seems reasonable to start the beginning student in modern physics by working simple problems rather than with the uncertainty principle.

The Introduction to Quantum Mechanics by Rojansky is written from this point of view. It assumes as a prerequisite only the elements of the calculus and the ordinary differential equations. It is not given over to rigorous proofs or derivations, but aspires rather to give a plausible presentation of the point in question. It is not a book for the advanced student in quantum mechanics, although even he will often find it useful, but is written definitely for the beginning graduate student.

In the chapters I and IX are treated the more mathematical aspects of the quantum mechanics, while chapters II–VIII and X, XI treat one dimensional problems in quantum theory. In these chapters the problems are reviewed from the classical method of approach and subsequently in the Schrödinger, Heisenberg and Dirac formulations. Chapter XII is devoted to three dimensional problems and in the last two chapters the Pauli and Dirac theories of the spinning electron are discussed. Each chapter contains a list of carefully chosen problems and exercises to illustrate the reading material of the chapter.

This work seems to fill a demand which has long existed and it can be sincerely recommended as a text for courses in elementary quantum mechanics. It should prove useful to many others, especially to experimenters for whom it is important to have at least a general knowledge of the theory.—*H. H. Nielsen.*

Introductory Quantum Mechanics, by Vladimir Rojansky. x+544 pp. New York, Prentice-Hall, Inc., 1938. $5.50.