

# Quantum Mechanics



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Contemporary and comprehensive textbook - covering a number of subjects not covered in other textbooks.

Based on state-of-the-art experimental and theoretical understanding of quantum mechanics.

Wide range of problem sets, solved either analytically or numerically (by using Mathematica programs).

Tutorial presentation, logical and simple, easy to read.

All complementary discussions included at the end of the book.

This book provides the reader with a contemporary and comprehensive introduction to Quantum Mechanics. It is suitable for beginners as well as for more advanced university students. Quantum mechanics is presented in a pedagogical fashion, with a clear logical organization. The various concepts and methods are introduced first in elementary terms, and later developed into more precise formulations. Systematic

studies of approximation methods and the discussion of a wide class of physical applications follow.

Part I of the book, together with the opening sections of Part II, provide adequate material for an introductory course of one semester at most universities. The rest of the book might be used in an advanced course on Quantum Mechanics.

The basic material is fairly standard, even though some discussions such as those on general systems with time-dependent Hamiltonians, on metastable systems, as well as the discussions in some of the Complement sections, may not be found in other textbooks. The book also contains many original observations or new ways of illustrating even well-known subjects. In fact, the authors wish to convey in this book the sense of wonder in the logical simplicity and at the same time the beauty of subtle and far-reaching consequences of Quantum Mechanics, to young physics students in particular.

Problem sets are provided at the end of each chapter, to be solved either analytically or by numerical methods. The solutions to both types of problems are given as separate pdf files or as Mathematica notebooks (there are 88 of them), all together on a CD accompanying the textbook. The presence of such a collection of numerical analyses enriches the main text and is one of the characteristic features of the book.

With the many interesting systems discussed, the book will also be a useful reference for researchers and teachers. It provides the reader with a unique, enjoyable and rather complete textbook of Quantum Mechanics, destined to set a new standard for many years to come.

Readership: Graduate students and researchers in physics and chemistry.

作者介绍:

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