

<<量子力学>>

图书基本信息

书名：<<量子力学>>

13位ISBN编号：9787506238267

10位ISBN编号：7506238268

出版时间：1998-8

出版时间：世界图书出版公司北京公司

作者：S.M.McMurry

页数：374

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## &lt;&lt;量子力学&gt;&gt;

## 内容概要

Quantum mechanics is a core subject in any undergraduate physics course, since it is the basis for all modern descriptions of the structure and behaviour of matter. This book provides an introduction to the theoretical foundations of quantum mechanics for students of experimental physics. It is intended as an intermediate text for those who have already completed an introductory course in quantum physics. A resume and discussion of the phenomena which led to the development of quantum mechanics is given in the first chapter, and the mathematical structure of the theory is developed gradually throughout the text, along with the necessary mathematical tools. Although a mathematical presentation is essential, the emphasis is on understanding the need for the formalism and the nature of the calculations involved rather than on technical mathematical skills.

## &lt;&lt;量子力学&gt;&gt;

## 书籍目录

Preface. List of symbols and physical constants Chapter 1 A review of the origins of quantum theory 1.1 ... and there was light! 1.2 The quantization of energy 1.3 Particle/wave duality 1.4 The two-slit diffraction experiment 1.5 Uncertainty and indeterminacy 1.6 Non-classical phenomena References Problems Chapter 2 The state of a quantum system 2.1 The classical description of the state of a particle 2.2 The wave function for a single particle 2.3 Measurements on a quantum system 2.4 The wave function for a free particle 2.5 Free particle beams and scattering experiments References Problems Chapter 3 The representation of dynamical variables 3.1 Eigenvalue equations 3.2 Energy eigenstates 3.3 Bound states of a particle in a one-dimensional square potential well 3.4 Scattering by a one-dimensional potential step 3.5 Scattering by a one-dimensional square well References Problems Chapter 4 More about dynamical variables 4.1 Compatible and incompatible variables 4.2 The angular momentum operators 4.3 The radial momentum operator 4.4 The parity operator 4.5 Orbital angular momentum eigenfunctions and eigenvalues 4.6 Angular distributions in orbital angular momentum eigenstates 4.7 Rotational energy in orbital angular momentum eigenstates References Problems Chapter 5 5.1 The energy spectrum of a one-dimensional simple harmonic oscillator 5.2 The energy eigenfunctions of the one-dimensional simple harmonic oscillator 5.3 Vibrational spectra of molecules and nuclei 5.4 Thermal oscillation, phonons and photons References Problems Chapter 6 Ladder operators: angular momentum Chapter 7 Symmetry and the solution of the Schrodinger equation Chapter 8 Magnetic effects in quantum systems Chapter 9 The superposition principle Chapter 10 The matrix formulation of quantum mechanics Chapter 11 Approximate methods for solving the Schrodinger equation Chapter 12 Time-dependent problems Chapter 13 many-particle systems Chapter 14 Coherence in quantum mechanics Appendix A The two-body problem in classical mechanics Appendix B Analytical solutions of eigenvalue equations Appendix C The computer demonstrations Index

## &lt;&lt;量子力学&gt;&gt;

## 编辑推荐

Quantum mechanics is a core subject in any undergraduate physics course, since it is the basis for all modern descriptions of the structure and behaviour of matter. This book provides an introduction to the theoretical foundations of quantum mechanics for students of experimental physics. It is intended as an intermediate text for those who have already completed an introductory course in quantum physics. A resume and discussion of the phenomena which led to the development of quantum mechanics is given in the first chapter, and the mathematical structure of the theory is developed gradually throughout the text, along with the necessary mathematical tools. Although a mathematical presentation is essential, the emphasis is on understanding the need for the formalism and the nature of the calculations involved rather than on technical mathematical skills.

<<量子力学>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>