

<<量子混沌导论>>

图书基本信息

书名：<<量子混沌导论>>

13位ISBN编号：9787506260053

10位ISBN编号：7506260050

出版时间：2003-11

出版时间：世图

作者：H-J Stockmann

页数：368

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>

<<量子混沌导论>>

内容概要

This book introduces the quantum mechanics of classically chaotic systems, or Quantum Chaos for short. The basic concepts of quantum chaos can be grasped easily by any student of physics, but the underlying physical principles tend to be obscured by the mathematical apparatus used to describe it. The author's philosophy, therefore, has been to keep the discussion simple and to illustrate theory, wherever possible, with experimental or numerical examples. The microwave billiard experiments, initiated by the author and his group, play a major role in this respect. A basic knowledge of quantum mechanics is assumed.

作者简介

H-J Stockmann was born in 1945 in Gottingen, Germany. He started his studies in physics and mathematics in 1964 at the University of Heidelberg. He performed his diploma work in experimental physics, on Optical spectroscopy which the finished in 1969. For his doctoral work he changed to nuclear solid state physics, with experiments at the research reactor of the Kernforschungszentrum karlsruhe.

书籍目录

Preface 1 Introduction 2 Billiard experiments 2.1 Wave propagation in solids and liquids 2.1.1 Chladni figures 2.1.2 Water surface waves 2.1.3 Vibrating blocks 2.1.4 Ultrasonic fields in water-filled cavities 2.2 Microwave billiards 2.2.1 Basic principles 2.2.2 Field distributions in microwave cavities 2.2.3 Billiards with broken time-reversal symmetry 2.2.4 Josephson junctions 2.3 Mesoscopic structures 2.3.1 Antidot lattices 2.3.2 Quantum dot billiards 2.3.3 Quantum well billiards 2.3.4 Quantum corrals 3 Random matrices 3.1 Gaussian ensembles 3.1.1 Symmetries 3.1.2 Universality classes 3.1.3 Definition of the Gaussian ensembles 3.1.4 Correlated eigenenergy distribution 3.1.5 Averaged density of states 3.2 Spectral correlations 3.3 Supersymmetry method 4 Floquet and tight-binding systems 4.1 Hamiltonians with periodic time dependences 4.2 Dynamical localization 4.3 Tight-binding systems 5 Eigenvalue dynamics 5.1 Pechukas-Yukawa model 5.2 Billiard level dynamics 5.3 Geometrical phases 6 Scattering systems 6.1 Billiards as scattering systems 6.2 Amplitude distribution functions 6.3 Fluctuation properties of the scattering matrix 7 Semiclassical quantum mechanics 7.1 Integrable systems 7.2 Gutzwiller trace formula 7.3 Contributions to the density of states 8 Applications of periodic orbit theory 8.1 Periodic orbit analysis of spectra and wave functions 8.2 Semiclassical theory of spectral rigidity 8.3 Periodic orbit calculation of spectra 8.4 Surfaces with constant negative curvature References Index

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>