

<<弦论 (第2卷) >>

图书基本信息

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内容概要

When I first decided to write a book on string theory, more than ten years ago, my memories of my student years were much more vivid than they are today. Still, I remember that one of the greatest pleasures was finding a text that made a difficult subject accessible, and I hoped to provide the same for string theory. Thus, my first purpose was to give a coherent introduction to string theory, based on the Polyakov path integral and conformal field theory. No previous knowledge of string theory is assumed. I do assume that the reader is familiar with the central ideas of general relativity, such as metrics and curvature, and with the ideas of quantum field theory through non-Abelian gauge symmetry. Originally a full course of quantum field theory was assumed as a prerequisite, but it became clear that many students were eager to learn string theory as soon as possible, and that others had taken courses on quantum field theory that did not emphasize the tools needed for string theory. I have therefore tried to give a self-contained introduction to those tools. A second purpose was to show how some of the simplest four-dimensional string theories connect with previous ideas for unifying the Standard Model, and to collect general results on the physics of four-dimensional string theories as derived from world-sheet and spacetime symmetries. New developments have led to a third goal, which is to introduce the recent discoveries concerning string duality, M-theory, D-branes, and black hole entropy.

作者简介

Joseph Polchinski received his Ph.D. from the University of California at Berkeley in 1980. After postdoctoral fellowships at the Stanford Linear Accelerator Center and Harvard, he joined the faculty at the University of Texas at Austin in 1984, moving to

<<弦论 (第2卷) >>

书籍目录

Foreword Preface Notation 10 Type and type superstrings 10.1 The superconformal algebra 10.2 Ramond and Neveu-Schwarz sectors 10.3 Vertex operators and bosonization 10.4 The superconformal ghosts 10.5 Physical states 10.6 Superstring theories in ten dimensions 10.7 Modular invariance 10.8 Divergences of type I theory Exercises 11 The heterotic string 11.1 World-sheet supersymmetries 11.2 The SO(32) and E8 x E8 heterotic strings 11.3 Other ten-dimensional heterotic strings 11.4 A little Lie algebra 11.5 Current algebras 11.6 The bosonic construction and toroidal compactification Exercises 12 Superstring interactions 12.1 Low energy supergravity 12.2 Anomalies 12.3 Superspace and superfields 12.4 Tree-level amplitudes 12.5 General amplitudes 12.6 One-loop amplitudes Exercises 13 D-branes 13.1 T-duality of type Strings 13.2 T-duality of gype strings 13.3 The D-brane charge and action 13.4 D-brane interactions: Statics 13.5 D-brane interactions: dynamics 13.6 D-brane interactions: bound states Exercises 14 Strings at strong coupling 15 Advanced CFT 16 Orbifolds 17 Calabi-Yau compactification 18 Physics in four dimensions 19 Advanced topics Appendix B: Spinors and SUSY in various dimensions References Glossary Index

<<弦论（第2卷）>>

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