

<<数学家用的量子场论>>

图书基本信息

书名：<<数学家用的量子场论>>

13位ISBN编号：9787506250955

10位ISBN编号：7506250950

出版时间：2001-6

出版时间：世界图书出版公司

作者：R.Ticciati

页数：699

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>

<<数学家用的量子场论>>

内容概要

After completing my dissertation in differential geometry, I returned to Maharishi University of Management to join the faculty there. The greatest need for my services was in the physics department, and the chairman, the well-known John Hagelin, pointed the finger of authority and said 'quantum field theory!' The class to start in a few weeks. I laughed, but John was serious. Fortunately, I had audited Sidney Coleman's outstanding Harvard lectures and had taken very good notes. Equally fortunate, I had Robert Brandenburger's official solutions to all the homework sets. I rolled up my sleeves and waded in. As we battled through the material, the beautiful architecture of Coleman's courses became apparent. It introduced the primary concepts - canonical quantization, renormalization, spin, functional integral quantization - one at a time and made each one practical before advancing to the next abstraction. It started with simple models and provided motivation for each elaboration. The students, however, pinned me to the board with questions about every step in the logic. Could I produce some mathematics to fill the gap? Was there a physical principle which would justify the proposed step? The standard references failed to meet the need, and for the most part I was stumped. It was a couple of years later, when the next group of graduate students was ripening, that I found time to think out some answers. The result was a draft of the first nine chapters of this book.

<<数学家用的量子场论>>

书籍目录

Preface Introduction 1. Relativistic Quantum Mechanics 1.0 Introduction 1.1 One-Particle State Space - Mathematics 1.2 One-Particle State Space - Physics 1.3 The Action of Translations on States 1.4 The Action of the Lorentz Group on States 1.5 Representing the Poincare Group 1.6 The Position Operator 1.7 Summary 2. Fock Space , the Scalar Field , and Canonical Quantization 2.0 Introduction 2.1 Bosonic Fock Space 2.2 Harmonic Oscillator Review 2.3 Application to Fock Space 2.4 The Free Scalar Field 2.5 Canonical Quantization of Classical Mechanics 2.6 Canonical Quantization of Classical Fields 2.7 The Structure of the Vacuum State 2.8 Summary.....3 Symmetries and Conservation Laws4 From Dyson's Formula to Feynman Rules5 Differential Transition Probabilities and Predictions6 Representations of the Lorentz Group7 Two-Component Spinor Fields8 Four-Component Spinor Fields9 Vector Fields and Gauge Invariance10 Reformulation Scattering Theory11 Functional Integral Quaanitization12 Quantization of Gauge Theories13 Anomalies and Vacua in Gauge Theories14 SU(3)Representation Theory15 The Structure of the Standard Model16 Hadrons, Flavor Symmetry, and Nucleon-Pion Interactions17 Tree-Level Applications of the Standard Model18 Regularization and Renormalization19 Renormalization of QED: Three primitive Divergences20 Renormalization and Preservation of Symmetries21 The Renormalization Group EquationsAppendixReferencesIndex

<<数学家用的量子场论>>

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>