

<<规范场理论>>

图书基本信息

书名：<<规范场理论>>

13位ISBN编号：9787506292078

10位ISBN编号：7506292076

出版时间：2008-5

出版时间：世界图书出版公司

作者：波考斯

页数：609

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>

## <<规范场理论>>

### 内容概要

This book has its origin in a long series of lectures given at the Institute for Theoretical Physics, Warsaw University. It is addressed to graduate students and to young research workers in theoretical physics who have some knowledge of quantum field theory in its canonical formulation, for instance at the level of two volumes by Bjorken & Drell (1964, 1965). The book is intended to be a relatively concise reference to some of the field theoretical tools used in contemporary research in the theory of fundamental interactions. It is a technical book and not easy reading. Physical problems are discussed only as illustrations of certain theoretical ideas and of computational methods. No attempt has been made to review systematically the present status of the theory of fundamental interactions.

<<规范场理论>>

作者简介

作者：(波兰)波考斯(Pokorski S.)

<<规范场理论>>

书籍目录

Preface to the First Edition 0 Introduction 0.1 Gauge invariance 0.2 Reasons for gauge theories of strong and electroweak interactions QCD Electroweak theory 1 Classical fields, symmetries and their breaking 1.1 The action, equations of motion, symmetries and conservation laws Equations of motion Global symmetries Space-time transformations Examples 1.2 Classical field equations Scalar field theory and spontaneous breaking of global symmetries Spinor fields 1.3 Gauge field theories U(1) gauge symmetry Non-abelian gauge symmetry 1.4 From Classical to quantum fields (canonical quantization) Scalar fields The Feynman propagator Spinor fields Symmetry transformations for quantum fields 1.5 Discrete symmetries Space reflection Time reversal Charge conjugation Summary and the CPT transformations CP violation in the neutral K<sup>0</sup>-K<sup>0</sup>-system Problems2 Path integral formulation of quantum field theory 2.1 Path integrals in quantum mechanics Transition matrix elements as path integrals Matrix elements of position operators 2.2 Vacuum-to-vacuum transitions and the imaginary time formalism General discussion Harmonic oscillator Euclidean Green's functions 2.3 Path integral formulation of quantum field theory Green's functions as path integrals Action quadratic in fields Gaussian integration 2.4 Introduction to perturbation theory Perturbation theory and the generating functional Wick's theorem An example: four-point Green's function in 4 Momentum space 2.5 Path integrals for fermions; Grassmann algebra Anticommuting c-numbers Dirac propagator 2.6 Generating functionals for Green's functions and proper vertices; effective potential Classification of Green's functions and generating functionals Effective action Spontaneous symmetry breaking and effective action Effective potential 2.7 Green's functions and the scattering operator Problems3 Feynman rules for Yang-Mills theories 3.1 The Faddeev-Popov determinant Gauge invariance and the path integral Faddeev-Popov determinant Examples Non-covariant gauges 3.2 Feynman rules for QCD Calculation of the Faddeev-Popov determinant Feynman rules 3.3 Unitarity, ghosts, Becchi-Rouet-Stora transformation Unitarity and ghosts BRS and anti-BRS symmetry Problems4 Introduction to the theory of renormalization 4.1 Physical sense of renormalization and its arbitrariness Bare and 'physical' quantities Counterterms and the renormalization conditions .....5 Quantum electrodynamics6 Renormalization group7 Scale invariance and operator product expansion8 Quantum chromodynamics9 Chiral symmetry; spontaneous symmetry breaking10 Spontaneous and explicit global symmetry breaking11 Brout-Englert-Higgs mechanism in gauge theories12 Standard electroweak theory13 Chiral anomalies14 Effective lagrangians15 Introduction to supersymmetryAppendix A: Spinors and their propertiesAppendix B: Feynman rules for QED and QCD and Feynman integralsAppendix C: Feynman rules for the Standard ModelAppendix D: One-loop Feynman integralsAppendix E: Elements of group theoryReferencesIndex

<<规范场理论>>

编辑推荐

《规范场理论(第2版)》由世界图书出版公司出版。

<<规范场理论>>

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>