

图书基本信息

书名：<<宇宙模型中的非参数化及路径积分量子化/DEPARAMETRIZATION AND PATH INTEGRAL>>

13位ISBN编号：9789810247416

10位ISBN编号：9810247419

出版时间：2001-12

出版时间：Pengiun Group (USA)

作者：Simeone, Claudio

页数：139

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>

内容概要

In this book, homogeneous cosmological models whose Hamilton-Jacobi equation is separable are deparametrized by turning their action functional into that of an ordinary gauge system. Canonical gauges imposed on the gauge system are used to define a global phase time in terms of the canonical variables of the minisuperspaces. The procedure clearly shows how the geometry of the constraint surface restricts the choice of time. The consequences that this has for path integral quantization are discussed, and the transition amplitude is obtained for relativistic isotropic models, relativistic anisotropic models (Kantowski-Sachs and Taub) and isotropic string cosmologies. A complete chapter about the application of the deparametrization program to the usual canonical quantization scheme is also included.

书籍目录

Preface
 Chapter 1 Introduction
 Chapter 2 The gravitational field as a constrained Hamiltonian system 2.1
 Momentum and Hamiltonian constraints 2.2 Minisuperspaces as constrained systems 2.3 Quantization 2.3.1
 Canonical quantization 2.3.2 Path integral quantization
 Chapter 3 Deparametrization and path integral
 quantization 3.1 The identification of time 3.1.1 Gauge fixation and deparametrization 3.1.2 Topology of the
 constraint surface: intrinsic and extrinsic time 3.2 Gauge-invariant action for a parametrized system 3.2.1 End
 point terms 3.2.2 Observables and time 3.2.3 Non separable constraints 3.3 Path integral 3.3.1 General
 formalism 3.3.2 The function f and the reduced Hamiltonian. Unitarity 3.4 Examples 3.4.1 Feynman
 propagator for the Klein-Gordon equation 3.4.2 The ideal clock 3.4.3 Transition probability for empty
 Friedmann-Robertson-Walker universes
 Chapter 4 Homogeneous relativistic cosmologies 4.1 Isotropic universes
 4.1.1 A toy model 4.1.2 True degrees of freedom 4.1.3 A more general constraint 4.1.4 Extrinsic time. The
 closed "de Sitter" universe 4.1.5 Comment 4.2 Anisotropic universes 4.2.1 The Kantowski-Sachs universe
 4.2.2 The Taub universe 4.2.3 Other anisotropic models
 Chapter 5 String cosmologies 5.1 String theory on
 background fields 5.2 String cosmological models 5.3 Path integral quantization 5.3.1 Gauge-invariant action
 5.3.2 Extrinsic time 5.3.3 Intrinsic time and path integral 5.3.4 Summary
 Chapter 6 Canonical quantization 6.1
 Approximate solutions of the Wheeler-DeWitt equation 6.2 Gauge fixation and Schrödinger equation for
 isotropic models 6.3 The Taub universe 6.3.1 Standard procedure 6.3.2 Boundary conditions and Schrödinger
 equation 6.3.3 Wheeler-DeWitt equation with extrinsic time 6.4 String cosmologies 6.4.1 Wheeler-DeWitt
 equation 6.4.2 Schrödinger equation
 Chapter 7 Discussion
 Appendix A Constrained Hamiltonian
 systems
 Appendix B Path integral and inner product
 Appendix C End point terms
 Appendix D An extrinsic time for
 the Taub universe
 Appendix E Free-particle constraint for minisuperspaces
 Bibliography
 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>