<<热核与狄拉克算子>>

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前言

This book, which began as a seminar in 1985 at MIT, contains complete proofs of thelocal index theorem for Dirac operators using the heat kernel approach, together withits generalizations to equivariant Dirac operators and families of Dirac operators, aswell as background material on superconnections and equivariant differential forms.Since the publication of the first edition, the subjects treated here have contin-ued to find new applications. Equivariant cohomology plays an important role in thestudy of symplectic reduction, and Bismut superconnections and the local index the-orem for families have had many applications, through the construction of higheranalytic torsion forms and currents. （For a survey of some of these developments,we recommend reading Bismut's talk at the Berlin International Congress of Mathe-maticians, reference Although this book lacks some of the usual attributes of a textbook （such asexercises）, it has been widely used in advanced courses in differential geometry;for many of the topics discussed here, there are no other treatments available inmonograph form. Because of the continuing demand from students for the book,we were very pleased when our editor Catriona Byrne at Springer Verlag proposedreissuing it in the series "Grundlehren Text Editions." The proofs in this book remainamong the simplest available, and we have decided to retain them without any changein the new edition.We have not attempted to give a definitive bibliography of this very large subject,but have only tried to draw attention to the articles that have influenced us.We would like to take the opportunity to thank the other participants in the MITseminar, especially Martin Andler and Varghese Mathai, for their spirited participa-tion. Discussions with many other people have been important to us, among whomwe would like to single out Jean-Michel Bismut, Dan Freed and Dan Quillen. Finally,we are pleased to be able to thank all of those people who read all or part of the bookas it developed and who made many comments which were crucial in improving thebook, both mathematically and stylistically, especially Jean-Franqois Burnol, MichelDuflo, Sylvie Paycha, Christophe Soule, and Shlomo Sternberg. We also thank thereferee for suggestions which have improved the exposition.

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内容概要

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作者简介

作者：(法国)波林

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书籍目录

Introduction1 Background on Differential Geometry1.1 Fibre Bundles and Connections1.2 Riemannian Manifolds1.3 Superspaces1.4 Superconnections1.5 Characteristic Classes1.6 The Euler and Thorn Classes2 Asymptotic Expansion of the Heat Kernel2.1 Differential Operators2.2 The Heat Kernel on Euclidean Space2.3 Heat Kernels2.4 Construction of the Heat Kernel2.5 The Formal SoLution2.6 The Trace of the Heat Kernel2.7 Heat Kernels Depending on a Parameter3 CLifford Modules and Dirae Operators3.1 The Clifford Algebra3.2 Spinors3.3 Dirac Operators3.4 Index of Dirac Operators3.5 The Lichnerowicz Formula3.6 Some Examples of Clifford Modules4 Index Density of Dirac Operators4.1 The Local Index Theorem4.2 Mehler's Formula4.3 Calculation of the Index Density5The Exponential Map and the Index Density5,1 Iacobian of the Exponential Map on Principal Bundles5.2 The Heat Kernel of a Principal Bundle5.3 Calculus with Grassmann and Clifford Variables5.4 The Index of Dirac Operators6 The Equivariant Index Theorem6.1 The Equivariant Index of Dirac Operators6.2 The Atiyah-Bott Fixed Point Formula6.3 Asymptotic Expansion of the Equivariant Heat Kernel6.4 The Local Equivariant Index Theorem6.5 Geodesic Distance on a Principal Bundle6.6 The heat kernel of an equivariant vector bundle6.7 Proof of Proposition6.137 Equivariant Differential Forms7.1 Equivariant Characteristic Classes7.2 The Localization Formula7.3 Bott's Formulas for Characteristic Numbers7.4 Exact Stationary Phase Approximation5 The Fourier Transform of Coadjoint Orbits7.6 Equivariant Cohomology and Families7.7 The Bott Class8 The Kirillov Formula for the Equivariant Index8.1 The Kirillov Formula8.2 The Weyl and Kirillov Character Formulas8.3 The Heat Kernel Proof of the Kirillov Formula9 The Index Bundle9.1 The Index Bundle in Finite Dimensions9.2 The Index Bundle of a Family of Dirac Operators9.3 The Chern Character of the Index Bundle9.4 The Equivariant Index and the Index Bundle9.5 The Case of Varying Dimension9.6 The Zeta-Function of a Laplacian9.7 The Determinant Line Bundle10 The Family Index Theorem10.1 Riemannian Fibre Bundles10.2 Clifford Modules on Fibre Bundles10.3 The Bismut Superconnection10.4 The Family Index Density10.5 The Transgression Formula10.6 The Curvature of the Determinant Line Bundle10.7 The Kirillov Formula and Bismut's Index Theorem

章节摘录

插图：

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