

## <<自旋几何>>

### 图书基本信息

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## 内容概要

in the late 1920's the relentless march of ideas and discoveries had carried physics to a generally accepted relativistic theory of the electron. the physicist p.a.m. dirac, however, was dissatisfied with the prevailing ideas and, somewhat in isolation, sought for a better formulation. by 1928 he succeeded in finding a theory which accorded with his own ideas and also fit most of the established principles of the time. ultimately this theory proved to be one of the great intellectual achievements of the period. it was particularly remarkable for the internal beauty of its mathematical structure which not only clarified much previously mysterious phenomena but also predicted in a compelling way the existence of an electron-like particle of negative energy. indeed such particles were subsequently found to exist and our understanding of nature was transformed.

because of its compelling beauty and physical significance it is perhaps not surprising that the ideas at the heart of dirac's theory have also been discovered to play a role of great importance in modern mathematics, particularly in the interrelations between topology, geometry and analysis. a great part of this new understanding comes from the work of m. atiyah and i. singer. it is their work and its implications which form the focus of this book.

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《自旋几何(英文版)》系统讲述了自旋流形，自旋场，狄拉克算子，这些都在现代数学中扮演越来越重要的角色，这些理论的深层次的应用需要具对Atiyah-Singer指标定理有较深的了解，所以书中详细讲述了定理的证明和相关预备知识。

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