

<<黎曼几何>>

图书基本信息

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内容概要

The object of this book is to familiarize the reader with the basic language of and some fundamental theorems in Riemannian Geometry.

To avoid referring to previous knowledge of differentiable manifolds, we include Chapter 0, which contains those concepts and results on differentiable manifolds which are used in an essential way in the rest of the book.

The first four chapters of the book present the basic concepts of Riemannian Geometry (Riemannian metrics, Riemannian connections, geodesics and curvature).

A good part of the study of Riemannian Geometry consists of understanding the relationship between geodesics and curvature.

Jacobi fields, an essential tool for this understanding, are introduced in Chapter 5.

In Chapter 6 we introduce the second fundamental form associated with an isometric immersion, and prove a generalization of the Theorem Egregium of Gauss.

This allows us to relate the notion of curvature in Riemannian manifolds to the classical concept of Gaussian curvature for surfaces.

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书籍目录

Preface to the first edition Preface to the second edition Preface to the English edition How to use this book
 CHAPTER 0-DIFFERENTIABLE MANIFOLDS 1. Introduction 2. Differentiable manifolds ; tangent space
 3. Immersions and embeddings ; examples 4. Other examples of manifolds , Orientation 5. Vector fields
 ; brackets , Topology of manifolds CHAPTER 1-RIEMANNIAN METRICS 1. Introduction 2.
 Riemannian Metrics CHAPTER 2-AFFINE CONNECTIONS ; RIEMANNIAN CONNECTIONS 1.
 Introduction 2. Affine connections 3. Riemannian connections CHAPTER 3-GEODESICS ; CONVEX
 NEIGHBORHOODS 1 . Introduction 2 . The geodesic flow 3 . Minimizing properties of geodesics 4
 . Convex neighborhoods CHAPTER 4-CURVATURE 1 . Introduction 2 . Curvature 3 . Sectional curvature
 4 . Ricci curvature and scalar curvature 5 . Tensors On Riemannian manifolds CHAPTER 5-JACOBI FIELDS 1
 . Introduction 2 . The Jacobi equation 3 . Conjugate points CHAPTER 6-ISOMETRIC IMMERSIONS 1
 . Introduction . 2 . The second fundamental form 3 . The fundamental equations CHAPTER 7-COMPLETE
 MANIFOLDS ; HOPF-RINOW AND HADAMARD THEOREMS 1 . Introduction . 2 . Complete
 manifolds ; Hopf-Rinow Theorem . 3 . The Theorem of Hadamard . CHAPTER 8-SPACES OF CONSTANT
 CURVATURE 1 . Introduction 2 . Theorem of Cartan on the determination of the metric by means of the
 curvature . 3 . Hyperbolic space 4 . Space forms 5 . Isometries of the hyperbolic space ; Theorem
 of Liouville CHAPTER 9—VARIATIONS OF ENERGY 1 . Introduction . 2 . Formulas for the first and second
 variations of energy 3 . The theorems of Bonnet—Myers and of Synge-Weierstrass CHAPTER 10-THE RAUCH
 COMPARISON THEOREM 1 . Introduction 2 . Title Theorem of Rauch . 3 . Applications of the Index
 Lemma to immersions 4 . Focal points and an extension of Rauch ' s Theorem CHAPTER 11—THE MORSE
 INDEX THEOREM 1 . Introduction 2 . The Index Theorem CHAPTER 12-THE FUNDAMENTAL GROUP
 OF MANIFOLDS OF NEGATIVE CURVATURE 1 . Introduction 2 . Existence of closed
 geodesics CHAPTER 13-THE SPHERE THEOREM References Index

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