<<黎曼几何概论>>

图书基本信息

书名：<<黎曼几何概论>>

13位ISBN编号：9787510033063

10位ISBN编号：7510033063

出版时间：2011-4

出版时间：世界图书出版公司

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页数：824

内容概要

《黎曼几何概论》既是一本学习黎曼几何发展参考书，也是一本很好的教程，包括了学习现代微分几何研究生需要了解的方方面面。
黎曼几何变得越来越重要，《黎曼几何概论》中着手本领域比较熟悉的话题，并且尽快过渡到最新科研成果。
这些结果并没有给出详细的证明，但一些的重要的结果仍然描述的十分详细生动，使得读者对该领域有详细深刻的理解。
然而，黎曼流形作为一个很小的科目，概念的建立需要一个过程，前三章侧重于通过常规的方法引入各种概念和黎曼几何的工具，紧接着详细讲述gauss和riemann。

作者简介

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章节摘录

版权页： 插图： This would describe the motion of the sea,if there were nocontinents on the planet.It might not be a bad approximation,since oceansare the bulk of the Earth's surface.His first result backs intuition.Disturb the water with a big shock（a Dirac distribution,if you prefer）somewhere,say at the north pole.Then you will always find another big shock at the south pole after a time T which is no larger than 2π.But Meyer's second series of results oppose intuition: the big shock can move from the north to the south pole while remaining extremely small everywhere for all time between O and T,as in figure 1.102 on the next page.Worse some apparently moderate shocks can,with larger and larger time,be very small almost everywhere and almost all the time,but at some times and some places can be as big as desired（everything there and then will break down）.Meyer's results explained the following strange observation: quite recently a tidal wave was observed at Martinique,and came back there later,this being completely unnoticed eyerywhere else in between times. 1.9.3 Billiards in Higher Dimensions The Faber-Krahn inequality extends to any dimension.Again,the proof involves the isoperimetric inequality（in any dimension）.Contrarily,billiards in dimensions larger than two are still to be fully explored.There is one ex-ception: billiards in concave regions,for which we refer to Katok,Strelcyn,Ledrappier & Przytycki 1986（788）.Such regions have the best possible ergodic behavior.But for nonconcave regions,even for polyhedra in three dimensional space,almost nothing is known concerning periodic motions or ergodicity,except for rectangular parallelepipeds,balls（of course）and the Berard examples mentioned above.There is an unpublished result of Katok asserting that the length counting function is subexponential.But,even in the simplest possi-ble cases,things are either not finished,or completely open.Let us mention only two cases.The first is that of the cube.Dynamics in a cube are compa-rable to dynamics in a square: a trajectory is periodic or everywhere dense.

编辑推荐

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