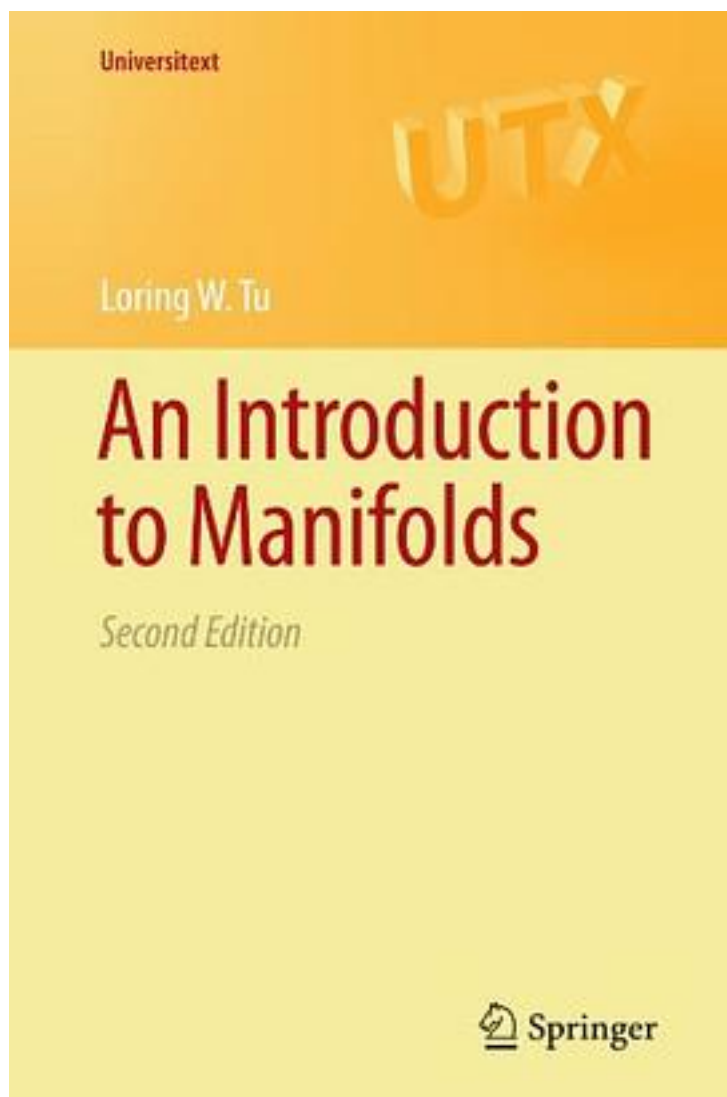


An Introduction to Manifolds



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出版者:Springer

出版时间:2010-10-8

装帧:Paperback

isbn:9781441973993

Manifolds, the higher-dimensional analogs of smooth curves and surfaces, are fundamental objects in modern mathematics. Combining aspects of algebra, topology, and analysis, manifolds have also been applied to classical mechanics, general relativity, and quantum field theory. In this streamlined introduction to the subject, the theory of manifolds is presented with the aim of helping the reader achieve a rapid mastery of the essential topics. By the end of the book the reader should be able to compute, at least for simple spaces, one of the most basic topological invariants of a manifold, its de Rham cohomology. Along the way, the reader acquires the knowledge and skills necessary for further study of geometry and topology. The requisite point-set topology is included in an appendix of twenty pages; other appendices review facts from real analysis and linear algebra. Hints and solutions are provided to many of the exercises and problems. This work may be used as the text for a one-semester graduate or advanced undergraduate course, as well as by students engaged in self-study. Requiring only minimal undergraduate prerequisites, "Introduction to Manifolds" is also an excellent foundation for Springer's GTM 82, "Differential Forms in Algebraic Topology".

作者介绍:

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标签

数学

流形

Manifolds

微分几何

几何

Mathematics

Tu

differential_geometry

评论

用现代的数学术语介绍微分流形，可惜最后的de rham cohomology就看不明白了。5/20. 写书当如Loring Tu!

长度适中

好智障..

三年前的书，二刷复习仍旧亲切, 少有的好书.
流形是光滑曲面的自然推广,微分形式很好的总结了何种流形上的积分是可能的.斯托克斯定理是经典向量分析的一个推广,在向量分析里面,无旋向量场是否有一个潜在的特定域取决于域的拓扑属性(简单连通), 这问题基本概括了De Rham理论

很简单 适合作bott tu的参考 直接从manifold开始 后面关于differential form和de rham theory的直接看bott tu就行了

这是个人见过把微分几何写得最深入浅出的一本书，友好不失严谨，推导的引入给人一种看特仑苏陶的实分析般的高屋建瓴。强烈推荐以本书入门。

没读完，感觉挺一般的。不知道内容是怎么安排的，什么都没讲透。易懂不一定就是好书。

基础太弱，断断续续花了三个月才啃完。优点是论述详细，组织合理，跳步不太多，基本能看懂。但也有一些证明需要利用课后的练习题结论，但习题并没有给出证明，我反正没空证，也不会，所以有些遗憾，要是再详细一点就好了。最后一章感觉不太细致，

看起来有点费劲。

down to earth的书，需要的基础很多都会讲一遍。

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书评

没有人评价的一本书，好奇怪。在我看来，这本书是流形理论最佳的入门书。作者是曾经和Raul Bott合写Differential Forms in Algebraic Topology的Loring Tu。读这本书不需要什么太多的数学基础，作者从最基础的东西一步步develop整个流形理论。习题大部分都有答案或者提示，而且...

学完近世代数，看这本书应该不成问题。比北大陈维桓的书好看的多，由于使用了代数学的理论，使得证明过程大为精炼。Boothby的书该讲的没讲透，大家都知道的扯了一大堆。总的来说，这本书很和我的胃口，力荐！

内容比较少，浅显。不算Appendix的话就300页左右，比较适合初学者。想再深入点就没办法了。作者说是这本书是经典的“Differential forms in algebraic topology”的前传。但是，正如很多经典电影的前传一样，这本书差了原书几个档次。Bott大师已逝，经典不再重现。

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