

<<代数拓扑导论>>

图书基本信息

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## 前言

This textbook is designed to introduce advanced undergraduate or beginning graduate students to algebraic topology as painlessly as possible. The principal topics treated are 2-dimensional manifolds, the fundamental group, and covering spaces, plus the group theory needed in these topics. The only prerequisites are some group theory, such as that normally contained in an undergraduate algebra course on the junior-senior level, and a one-semester undergraduate course in general topology. The topics discussed in this book are "standard" in the sense that several well-known textbooks and treatises devote a few sections or a chapter to them. This, I believe, is the first textbook giving a straightforward treatment of these topics, stripped of all unnecessary definitions, terminology, etc., and with numerous examples and exercises, thus making them intelligible to advanced undergraduate students. The subject matter is used in several branches of mathematics other than algebraic topology, such as differential geometry, the theory of Lie groups, the theory of Riemann surfaces, or knot theory. In the development of the theory, there is a nice interplay between algebra and topology which causes each to reinforce interpretations of the other. Such an interplay between different topics of mathematics breaks down the often artificial subdivision of mathematics into different "branches" and emphasizes the essential unity of all mathematics.

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## 内容概要

This textbook is designed to introduce advanced undergraduate or beginning graduate students to algebraic topology as painlessly as possible. The principal topics treated are 2-dimensional manifolds , the fundamental group , and covering spaces , plus the group theory needed in these topics. The only prerequisites are some group theory , such as that normally contained in an undergraduate algebra course on the junior-senior level , and a one-semester undergraduate course in general topology. The topics discussed in this book are "standard" in the sense that several well-known textbooks and treatises devote a few sections or a chapter to them. This , I believe , is the first textbook giving a straightforward treatment of these topics , stripped of all unnecessary definitions , terminology , etc. , and with numerous examples and exercises , thus making them intelligible to advanced undergraduate students.

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