

<<微分流形导论>>

图书基本信息

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内容概要

this book is an outgrowth of my introduction to differentiable manifolds (1962) and differential manifolds (1972). both i and my publishers felt it worth while to keep available a brief introduction to differential manifolds. the book gives an introduction to the basic concepts which are used in differential topology, differential geometry, and differential equations. in differential topology, one studies for instance homotopy classes of maps and the possibility of finding suitable differentiable maps in them (immersions, embeddings, isomorphisms, etc.). one may also use differentiable structures on topological manifolds to determine the topological structure of the manifold (for example, a la smale [sm 67]). in differential geometry, one puts an additional structure on the differentiable manifold (a vector field, a spray, a 2-form, a riemannian metric, ad lib.) and studies properties connected especially with these objects. formally, one may say that one studies properties invariant under the group of. differentiable automorphisms which preserve the additional structure. in differential equations, one studies vector fields and their integral curves, singular points, stable and unstable manifolds, etc. a certain number of concepts are essential for all three, and are so basic and elementary that it is worthwhile to collect them together so that more advanced expositions can be given without having to start from the very beginnings. the concepts are concerned with the general basic theory of differential manifolds. my fundamentals of differential geometry (1999) can then be viewed as a continuation of the present book.

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