<<纤维丛>>

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前言

In this edition, we have added two new chapters, Chapter 7 on the gauge group of a principal bundle and Chapter l 9 on the definition of Chern classes by djfrerential forms.These SUbjects have taken on special importance when we consider new applications of the fibre bundle theory especially to mathe- matical physics.For these two chapters.the author profited from discussions with Professor M.S.Narasimhan. The idea of using the term bundle for what iS iust a map, but iS eventually a fibre bundle projection, iS due to Grothendieck. The bibliography has been enlarged and updated.For example, in the Seifert reference rl 932]we find one of the first explicit references to the concept of fibrings. The first edition of the Fibre Bundies was translated into Russian under the title " PaccJIOeHHble pocTpaHcrna " in l 970 bv B.A.CKOBCKHX with gcneral editor M.M.OCTHHKOBa.The remarks and additions of the editor have been very USeful in this edition of the book.Thc author is very grateful to A.Voronov.who helped with translations of the additions from the RUS. sian text. Part of this revision was made while the author was a guest of the Max Planck lnstitut from 1988 to 89 , the ETH during the summers of 1990 and 199l, the University 0f Heidelberg during the summer 0f 1992, and the Tata Institute for Fundamental Research during January 1990, 1991.and 1992.It iS a pleasure tO acknowledge all these institutions as well as the Haverford College Faculty Research Fund.

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内容概要

The notion of a fibre bundle first arose out of questions posed in the 1930s on the topology and geometry of manifolds. By the year 1950， the definition of fibre bundle had been clearly formulated， the homotopy classification of fibre bundles achieved， and the theory of characteristic classes of fibre bundles developed by several mathematicians：Chern， Pontrjagin， Stiefel， and Whitney. Steenrods book， which appeared in 1950， gavea coherent treatment of the subject up to that time. About 1955， Miinor gave a construction ora universal fibre bundle for any topological group. This construction is also included in Part I along with an elementary proof that the bundle is universal.

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