

<<纤维丛>>

图书基本信息

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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 19 on the definition of Chern classes by differential forms. These subjects have taken on special importance when we consider new applications of the fibre bundle theory especially to mathematical 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 just 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 [1932] we find one of the first explicit references to the concept of fibrings. The first edition of the Fibre Bundles was translated into Russian under the title “ ПаккИОеННble pocTpaHcrna ” in 1970 by B.A.CKOBCKHX with general editor M.M.OCTHHKOBa. The remarks and additions of the editor have been very useful in this edition of the book. The author is very grateful to A.Voronov, who helped with translations of the additions from the Russian text. Part of this revision was made while the author was a guest of the Max Planck Institut from 1988 to 89 , the ETH during the summers of 1990 and 1991 , the University of Heidelberg during the summer of 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.

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. Steenrod's book, which appeared in 1950, gave a coherent treatment of the subject up to that time. About 1955, Milnor gave a construction of a 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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