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Titolo	Topological library . Part 2 Characteristic classes and smooth structures on manifolds // editors, S.P. Novikov, I.A. Taimanov ; translated by V. O. Manturov
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Altri autori (Persone)	NovikovS. P (Sergei Petrovich) TaimanovI. A <1961-> (Iskander Asanovich)
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Nota di contenuto	Contents; S. P. Novikov's Preface; 1 J. Milnor. On manifolds homeomorphic to the 7-sphere; 1. The invariant (M7); 2. A partial characterization of the n-sphere; 3. Examples of 7-manifolds; 4. Miscellaneous results; References; 2 M. Kervaire and J. Milnor. Groups of homotopy spheres. I; 1. Introduction; 2. Construction of the group π_n ; 3. Homotopy spheres are s-parallelizable; 4. Which homotopy spheres bound parallelizable manifolds?; 5. Spherical modifications; 6. Framed spherical modifications; 7. The groups bP_{2k} ; 8. A cohomology operation; References 3 S. P. Novikov. Homotopically equivalent smooth manifolds Introduction; Chapter I. The fundamental construction; 1. Morse's surgery; 2. Relative n -manifolds; 3. The general construction; 4. Realization of classes; 5. The manifolds in one class; 6. One manifold in different classes; Chapter II. Processing the results; 7. The Thom space of a normal bundle. Its homotopy structure; 8. Obstructions to a diffeomorphism of manifolds having the same homotopy type and a stable normal bundle; 9. Variation of a smooth

structure keeping triangulation preserved

10. Varying smooth structure and keeping the triangulation preserved. Morse surgery; Chapter III. Corollaries and applications; 11. Smooth structures on Cartesian product of spheres; 12. Low-dimensional manifolds. Cases $n = 4, 5, 6, 7$; 13. Connected sum of a manifold with Milnor's sphere; 14. Normal bundles of smooth manifolds; Appendix 1. Homotopy type and Pontrjagin classes; Appendix 2. Combinatorial equivalence and Milnor's microbundle theory; Appendix 3. On groups; Appendix 4. Embedding of homotopy spheres into Euclidean space and the suspension stable homomorphism

Introduction 1. Formulation of results; 2. The proof scheme of main theorems; 3. A geometrical lemma; 4. An analog of the Hurewicz theorem; 5. The functor $P = \text{Hom}c$ and its application to the study of homology properties of degree one maps; 6. Stably freeness of kernel modules under the assumptions of Theorem 3; 7. The homology effect of a Morse surgery; 8. Proof of Theorem 3; 9. Proof of Theorem 6; 10. One generalization of Theorem 5; Appendix 1. On the signature formula; Appendix 2. Unsolved questions concerning characteristic class theory

Appendix 3. Algebraic remarks about the functor $P = \text{Hom}c$

Sommario/riassunto

This is the second of a three-volume set collecting the original and now-classic works in topology written during the 1950s-1960s. The original methods and constructions from these works are properly documented for the first time in this book. No existing book covers the beautiful ensemble of methods created in topology starting from approximately 1950, that is, from Serre's celebrated "singular homologies of fiber spaces." *Sample Chapter(s)*
Chapter 1: On manifolds homeomorphic to the 7-sphere1 (153 KB)
Contents:

- On Manifolds Homeomorphic to the 7-Sphere
