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Soggetti	Algebraic topology Topological groups Lie groups Manifolds (Mathematics) Complex manifolds Group theory K-theory Algebraic Topology Topological Groups, Lie Groups Manifolds and Cell Complexes (incl. Diff.Topology) Group Theory and Generalizations K-Theory
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Nota di contenuto	Prerequisite Concepts and Notations -- Basic Homotopy -- The Fundamental Groups.-Covering Spaces -- Fibre Bundles, Vector Bundles and K-theory -- Geometry of Simplicial Complexes and Fundamental Groups -- Higher Homotopy Groups -- Products in Higher Homotopy Groups -- CW-complexes and Homotopy -- Eilenberg-MacLane Spaces -- Homology and Cohomology Theories -- Eilenberg-Steenrod Axioms for Homology and Cohomology Theories -- Consequences of the Eilenberg-Steenrod Axioms -- Some Applications of Homology Theory -- Spectral Homology and Cohomology Theories -- Obstruction Theory -- More Relations Between Homotopy and Homology Groups -- A Brief Historical Note.

Sommario/riassunto

This book provides an accessible introduction to algebraic topology, a eld at the intersection of topology, geometry and algebra, together with its applications. Moreover, it covers several related topics that are in fact important in the overall scheme of algebraic topology. Comprising eighteen chapters and two appendices, the book integrates various concepts of algebraic topology, supported by examples, exercises, applications and historical notes. Primarily intended as a textbook, the book oers a valuable resource for undergraduate, postgraduate and advanced mathematics students alike. Focusing more on the geometric than on algebraic aspects of the subject, as well as its natural development, the book conveys the basic language of modern algebraic topology by exploring homotopy, homology and cohomology theories, and examines a variety of spaces: spheres, projective spaces, classical groups and their quotient spaces, function spaces, polyhedra, topological groups, Lie groups and cell complexes, etc. The book studies a variety of maps, which are continuous functions between spaces. It also reveals the importance of algebraic topology in contemporary mathematics, theoretical physics, computer science, chemistry, economics, and the biological and medical sciences, and encourages students to engage in further study.