

Vick, James W.

Homology theory. An introduction to algebraic topology. 2. ed. (English) Zbl 0789.55004
Graduate Texts in Mathematics. 145. New York: Springer-Verlag. xiv, 242 p. (1994).

The first edition of this textbook (1973; [Zbl 0262.55005](#)) dealt with singular homology. This second edition has an additional chapter on covering spaces, the fundamental group, and Van Kampen's theorem. It also has an additional bibliography; both the old and new bibliographies are very extensive.

Among the topics dealt with in the chapters on homology theory are the following: singular homology and cohomology with arbitrary coefficients; the Eilenberg-Steenrod axioms; cup, cap and cross products; Poincaré and Lefschetz duality; fixed point theory.

The book is very readable. It concentrates on the main ideas; the details of proofs are often left to the reader.

Reviewer: [R.J.Steiner](#) (Glasgow)

MSC:

[55N10](#) Singular homology and cohomology theory
[55-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to algebraic topology

Cited in 2 Reviews
Cited in 35 Documents

Keywords:

[singular homology](#); [covering spaces](#); [fundamental group](#); [Van Kampen's theorem](#)