Bloch, Spencer
Algebraic cycles and higher K-theory. (English) | Zbl 0608.14004
Adv. Math. 61, 267-304 (1986).

The main purpose of this paper is to lay the foundations of a theory of higher Chow groups, $CH^*(X, n)$, $n \geq 0$, where X is a quasi- projective scheme over a field k, in such a way as to generalize the Riemann-Roch theorem of Baum, Fulton and MacPherson and establish results which have been available for some time in higher algebraic K-theory. These Chow groups are defined as the homotopy groups of a simplicial complex of graded abelian groups associated to X, and this complex is conjectured to satisfy certain axioms of Beilinson and Lichtenbaum.

Among the properties established herein for $CH^*(X, n)$ are: (1) *functoriality* (covariant for proper maps, contravariant for flat maps); (2) hom*otopy*; (3) *localization*; (4) *local* to global spectral sequence; (5) *multiplicative* structure; and (6) *Chern* classes.

Reviewer: M.Stein

MSC:

14C35	Applications of methods of algebraic K-theory in algebraic geometry
14C40	Riemann-Roch theorems
18F25	Algebraic K-theory and L-theory (category-theoretic aspects)
14C05	Parametrization (Chow and Hilbert schemes)
14F05	Sheaves, derived categories of sheaves, etc. (MSC2010)

Cited in **26** Reviews
Cited in **158** Documents

Keywords:

higher Chow groups; Riemann-Roch theorem

Full Text: DOI

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