

Motivic spectral sequence for relative homotopy K -theory

AMALENDU KRISHNA AND PABLO PELAEZ

Abstract. We construct a motivic spectral sequence for the relative homotopy invariant K -theory of a closed immersion of schemes $D \subset X$. The E_2 -terms of this spectral sequence are the cdh -hypercohomology of a complex of equidimensional cycles.

Using this spectral sequence, we obtain a cycle class map from the relative motivic cohomology group of 0-cycles to the relative homotopy invariant K -theory. For a smooth scheme X and a divisor $D \subset X$, we construct a canonical homomorphism from the Chow groups with modulus $\mathrm{CH}^i(X|D)$ to the relative motivic cohomology groups $H^{2i}(X|D, \mathbb{Z}(i))$ appearing in the above spectral sequence. This map is shown to be an isomorphism when X is affine and $i = \dim(X)$.

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