

The Karoubi regulator and syntomic regulators

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Abstract

This is a report on work in progress. We generalize a construction of Karoubi and define a regulator from the algebraic K-theory of a variety X over a p -adic field to a cohomology theory similar in style to Karoubi's "multiplicative K-theory". In some cases this cohomology should simply be syntomic cohomology up to torsion. The advantage is that the regulator depends only on X and not on an integral model. We discuss a possible application to the syntomic regulator of fields.