

# Motivic cohomology of mixed characteristic schemes

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I will present a new theory of motivic cohomology for general (qcqs) schemes. It is related to non-connective algebraic  $K$ -theory via an Atiyah-Hirzebruch spectral sequence. In particular, it is non- $\mathbb{A}^1$ -invariant in general, but it recovers classical motivic cohomology on smooth schemes over a Dedekind domain after  $\mathbb{A}^1$ -localisation. The construction relies on the syntomic cohomology of Bhatt-Morrow-Scholze and the cdh-local motivic cohomology of Bachmann-Elmanto-Morrow, and generalises the construction of Elmanto-Morrow in the case of schemes over a field.