

Algebraic Morava K -theory spectra over perfect fields

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Abstract. In the paper [2] we constructed (co)homology theories on the category of smooth schemes which share some of the some of the defining properties of the (co)homology theories induced by the Morava k -theory spectra in classical homotopy theory. Some proofs used the topological realization functor (*cf.* [8]). The existence of that functor requires the base field k to be embedded in \mathbb{C} . In this manuscript we investigate up to what extent we can obtain the same results under the sole assumption of perfectness of the base field. The results proved here guarantee the existence of spectra Φ_i satisfying the same properties as in [2], provided that the algebra of all the bistable motivic cohomology operations verifies an assumption involving the Milnor operation Q_t .

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