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On the essential dimension of cycle modules

Essential dimension is a natural measure of complexity for algebraic objects. We will present a new elementary technique for proving lower bounds on the essential dimension of elements of cycle modules as defined by Markus Rost. Examples of cycle modules include Milnor K-theory, Quillen K-theory, Etale cohomology of torsion sheaves and more. As a corollary, we deduce the first meaningful lower bounds on the essential dimension of Brauer classes in good characteristic. This is joint work with Zinovy Reichstein.