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Noncommutative rigidity. (English) Zbl 1423.19008

Summary: In this article we prove that the numerical Grothendieck group of every smooth proper dg category is invariant under primary field extensions, and also that the mod-\(n\) algebraic \(K\)-theory of every dg category is invariant under extensions of separably closed fields. As a byproduct, we obtain an extension of Suslin’s rigidity theorem, as well as of Yagunov-Østvær’s equivariant rigidity theorem, to singular varieties. Among other applications, we show that base-change along primary field extensions yields a faithfully flat morphism between noncommutative motivic Galois groups. Finally, along the way, we introduce the category of \(n\)-adic noncommutative mixed motives.

MSC:
19E08 \(K\)-theory of schemes
14A22 Noncommutative algebraic geometry
14C25 Algebraic cycles
19E15 Algebraic cycles and motivic cohomology (\(K\)-theoretic aspects)

Keywords:
algebraic cycles; \(K\)-theory; noncommutative algebraic geometry

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References:


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