

Hochschild cohomology of Artin algebras under stable equivalences of adjoint type

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Abstract

In this talk we show that for $n \geq 1$ the n -th Hochschild cohomology is invariant under stable equivalence of adjoint type for Artin algebras. In particular, if two algebras are finite-dimensional over a field and if they are stably equivalent of Morita type then their n -th Hochschild cohomologies are isomorphic for all $n \geq 1$. This completely answers the question whether n -th Hochschild cohomology is invariant under stable equivalences of Morita type for finite dimensional algebras. We mention that for finite dimensional self-injective algebras this was first shown by Z.Pogorzaly, and then by Liu and the speaker by a different method.