

1144-18-239

Benjamin Briggs* (briggs@math.utah.edu). *Stable invariance of the p -power structure on Hochschild cohomology.*

This is joint work with Leonard Rubio y Degraffi.

Understanding the relationship between two group algebras which happen to be connected by a stable equivalence of Morita type is an important problem. The positive part of the Hochschild cohomology $HH^*(kG/k)$ is an invariant under these stable equivalences, via the transfer maps of Linckelmann. How much of the rich structure on Hochschild cohomology is also invariant? It's known that when the transfer maps aren't isomorphisms they can fail to respect the Lie algebra structure. Nonetheless we show that the full restricted Lie algebra structure on $HH^{>0}(kG/k)$ is invariant under stable equivalences of Morita type ("restricted" means with its p -power structure). For free we also get invariance of another Dyer-Lashof-Cohen operation on Hochschild cohomology (which doesn't seem to have been used by modular representation theorists).

We do this by stabilising some methods used originally by Keller. The proof applies equally well to certain singular equivalences between Gorenstein algebras. (Received August 26, 2018)