On Hochschild cohomology of blocks of finite group algebras

Constantin-Cosmin Todea

Contact: constantin.todea@math.utcluj.ro, Technical University of Cluj-Napoca

Abstract: Let G be a finite group and k be an algebraically closed field of characteristic p, with p dividing the order of G. A block algebra B of the group algebra kG is an indecomposable direct factor of kG. We can study its Hochschild cohomology $\mathrm{HH}^*(B)$, but we also have invariants related to the finite group G, such as: defect groups, fusion systems, block cohomology. We investigate a question of Markus Linckelmann [1] about the non-triviality of the first Hochschild cohomology $\mathrm{HH}^1(B)$ when B has non-trivial abelian defect group. Bockstein maps for $\mathrm{HH}^*(B)$ may also be presented.

References

[1] M. Linckelmann, Hochschild cohomology and modular representation theory, *ICRA 2016,* https://www.youtube.com/watch?v=OuTfu4-E3UA