

Homology and cohomology for partial actions

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Abstract

This is a joint work with Misha Dokuchaev (USP) and Marcelo Muníz Alves (UFPR).

We will discuss homological properties of the partial group algebra $\mathbb{K}_{par}G$, where K is a field. In particular we define a partial cohomological dimension $cd_{\mathbb{K}}^{par}(G)$ and conjecture that it coincides with the ordinary cohomological dimension $cd_{\mathbb{K}}(G)$ over the field \mathbb{K} . This is a non-trivial question as even in the case $G = \mathbb{Z}$ it turns out the conjecture is true but the trivial $\mathbb{K}_{par}G$ -module \mathbb{K} has a projective resolution of the right length but it is not a free one.

References

- [1] M. M. Alves, M. Dokuchaev, D. Kochloukova, Homology and cohomology via the partial group algebra , ArXiv 2006.10173