The Hochschild cohomology of a class of exceptional periodic selfinjective algebras of polynomial growth

Tomohiro Itagaki and Hideyuki Koie

Tokyo University of Science,
National Institute of Technology (KOSEN), Nagaoka College

Email: titagaki@rs.tus.ac.jp, 1114702@alumni.tus.ac.jp

This talk is based on joint work with G. Zhou and W. Lyu. It is known that the non-standard periodic representation-infinite selfinjective algebras of polynomial growth are socle deformations of the corresponding periodic standard algebras, and every such an algebra Λ is geometric socle deformation of excactly one representation-infinite standard algebra Λ' of polynomial growth. These algebras Λ and Λ' are called exceptional periodic algebras of polynomial growth in [1]. In [2], their Hochschild cohomology groups $\mathrm{HH}^i(\Lambda)$ and $\mathrm{HH}^i(\Lambda')$ for $i = 0, 1, 2$ are determined, and it is shown that Λ and Λ' are not derived equivalent.

In this talk, we determine the Hochschild cohomology ring of a class of exceptional periodic selfinjective algebras of polynomial growth.

References

1. J. Białkowski, K. Erdmann and A. Skowroński, Periodicity of self-injective algebras of polynomial growth, J. Algebra 443 (2015), 200–269.
2. J. Białkowski, K. Erdmann and A. Skowroński, Hochschild cohomology for periodic algebras of polynomial growth, J. Pure Appl. Algebra 223 (2019), no. 4, 1548–1589.

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