

## Gorenstein analogues of a projectivity criterion over group algebras

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I will talk about a recent preprint (arXiv:2502.00868; joint with Dimitra-Dionysia Stergiopoulou) where we formulated and answered Gorenstein projective, flat, and injective analogues of a classical projectivity question for group rings under some mild additional assumptions. Although the original question, that was proposed by Jang-Hyun Jo in 2007, was for integral group rings, in our paper, we dealt with more general commutative base rings. We made use of the developments that have happened in the field of Gorenstein homological algebra over group rings in recent years, and we managed to improve and generalize several existing results from this area along the way.