

ON RADICAL CUBE ZERO SELFINJECTIVE ALGEBRAS AND SUPPORT VARIETIES

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(Joint work with Karin Erdmann). Let Λ be a finite-dimensional selfinjective algebra. As shown by Erdmann-Holloway-Snashall-S-Taillefer it is of interest when the Hochschild cohomology ring $\mathrm{HH}^*(\Lambda)$ satisfies suitable finiteness conditions ensuring that finitely generated Λ -modules have support varieties with good properties. This is a seemingly hard problem in general, so we restrict to Koszul algebras. For finite dimensional Koszul algebras Erdmann-S obtained a characterization when these finiteness conditions hold in terms of the graded center of the Koszul dual. We use this for radical cube zero selfinjective algebras to give a partial answer in this generality (generalizing work of D. Benson), and we obtain a complete classification for radical cube zero weakly symmetric algebras.

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