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Hochschild Cohomology Rings of Monomial Algebras (50-60)

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In this talk, I will present our recent results on the structure of the Hochschild cohomology ring of a finite dimensional monomial algebra modulo the ideal generated by homogeneous nilpotent elements. In particular, we show that this ring is finitely generated. We also prove that it is isomorphic to the graded center of the Ext-algebra of the monomial algebra modulo the ideal generated by nilpotent elements. We give a complete description of the generators of the ring and show that the Krull dimension of the ring is 1. We apply these results to support varieties of modules, introduced in this wider context by Snashall and Solberg.