

δ -Koszul Algebras

Edward L. Green Eduardo Marcos*

Abstract

This is a talk about a joint work with E. L. Green.

Let $A = A_0 \oplus A_1 \oplus A_1 \oplus \cdots$ be a graded K -algebra such that A_0 is a finite product of copies of the field K , A is generated in degrees 0 and 1, and $\dim_K A_1 < \infty$. We study those graded algebras A with the property that A_0 , viewed as a graded A -module, has a graded projective resolution, $\cdots \rightarrow P^t \rightarrow \cdots \rightarrow P^1 \rightarrow P^0 \rightarrow A_0 \rightarrow 0$, such that each P^i can be generated in a single degree. Our work describes necessary and sufficient conditions for the Ext-algebra of A , $\bigoplus_{n \geq 0} \text{Ext}_A^n(A_0, A_0)$, to be finitely generated. We also investigate classes of modules over such algebras and Veronese subrings of the Ext-algebra.

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