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Quadratic algebras with Ext algebras generated in two degrees

A graded k -algebra is called δ -Koszul if the corresponding Yoneda algebra $\text{Ext}(k, k)$ is finitely generated and $\text{Ext}^{i,j}(k, k)$ is zero unless $j = \delta(i)$ for some function $\delta: \mathbb{N} \rightarrow \mathbb{N}$. Green and Marcos ask if there is a bound N such that for any δ -Koszul algebra A , $\text{Ext}(k, k)$ will be generated in degrees 0 to N . I will answer this by showing that for any integer $m \geq 3$ there is a non-commutative quadratic δ -Koszul algebra for which the Yoneda algebra is generated in degrees $(1, 1)$ and $(m, m + 1)$. These algebras are not Koszul but are m -Koszul (in the sense of Backelin).