Delayed Koszul Duality. Preliminary report.

It’s a classic result that the Yoneda algebra $E(A) = \text{Ext}_A(k, k)$ of a Koszul algebra $A$ is another quadratic algebra, which is again Koszul; indeed, $E(E(A)) \cong A$. Green, et. al., have also proven a similar property for Berger’s class of $N$-Koszul algebras: if $A$ is $N$-Koszul, then $E(E(E(A))) \cong E(A)$. We study the condition $E(E(E(A))) \cong E(A)$ in general, and prove this property is preserved under a number of operations. (Received September 21, 2011)