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Cohomologically noetherian modules and rings

Every left module M over an associative ring R defines functors $\text{Ext}_R^*(M, -)$ and $\text{Ext}_R^*(-, M)$ from left R -modules to graded right $\text{Ext}_R^*(M, M)$ -modules and to graded right $\text{Ext}_R^*(M, M)$ -modules, respectively. Over various classes of rings, including group algebras over fields and complete intersection local rings, it is known that these functors map noetherian R -modules to modules that are noetherian over the universal center of $\text{Ext}_R^*(M, M)$. It will be shown that such a condition on cohomology implies strong restrictions on the ring R . The talk is based on joint work with Srikanth Iyengar.