THE FIELDS INSTITUTE
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Derived tameness of certain associative algebras

We propose a new method to deal with the derived categories of certain associative $\mathbf{k}$-algebras. This method gives a unifying description of the derived categories of a branch class of algebras such as gentle algebras, some clannish algebras, complete ring of a double nodal point $\mathbf{k}[[x,y]]/(xy)$ and the path algebra of the Gelfand quiver. We reduce the description of indecomposable objects to a matrix problem (represenations of bunches of semi-chains). This reduction gives an explicit description of indecomposable complexes. As a corollary we obtain that the derived category of Harish-Chandra modules over $SL_2(\mathbb{R})$ is tame. We also apply our results to describe certain derived categories of constructible sheaves on topological manifolds. This is a joint work with Yu.Drozd.