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The derived contraction algebra

Derived categories have a strong link to birational geometry – for example, Bridgeland's famous result that threefold flops induce derived equivalences. Wemyss's Homological Minimal Model Programme is an attempt to run the MMP using derived methods. In particular, given a threefold flopping contraction, one can associate a certain finite-dimensional algebra as an invariant, called the contraction algebra. It controls the noncommutative deformation theory of the flopping curves, and is conjectured to determine completely the complete local geometry of the base. In this poster, I'll describe a natural – at least from the point of view of noncommutative derived geometry – generalisation, the derived contraction algebra, and outline why it should control the derived deformation theory.
