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Dualizing complexes - a conjectural formula.

The definition of dualizing complexes, in algebraic geometry, goes way back to Grothendieck in the 1960s. The noncommutative version originated with Van den Bergh in 1997. We'll recall what's known about the existence of these things. We may also say a little about their significance.

Ten-year-old work by Avramov and Iyengar, followed more recently by a number of other articles by a number of authors, raises several intriguing questions. The one I will focus on is the following: in the commutative case Avramov and Iyengar provide a formula that produces dualizing complexes, but the proof that the formula works doesn't extend to the noncommutative setting.

Does the formula work in general? (Received January 28, 2018)