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Title: Lefschetz Properties for Connected Sums and Fibered Products of Graded Gorenstein Artinian Algebras

Abstract: A standard way to create new varieties from old is by forming connected sums. This corresponds at the level of their cohomology rings to an algebraic operation also termed a connected sum, which has recently started to be investigated in commutative algebra. It is natural to ask whether algebraic connected sums of graded Gorenstein artinian algebras enjoy the Lefschetz properties in the absence of any underlying topological information. We investigate this question, as well as the analogous question concerning a closely related construction, the fibered product.

This is joint work with Chris McDaniel and Tony Iarrobino.