

A local Lefschetz theorem

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A classical theorem of Lefschetz asserts that non-trivial line bundles on a smooth projective variety of dimension ≥ 3 remain non-trivial upon restriction to an ample divisor. In SGA2, Grothendieck recast this result in purely local terms. Answering a question raised recently by Kollár, we will explain how this local reformulation remains true under much milder hypotheses than those in SGA2. Our method uses a vanishing theorem in characteristic p , and formal geometry over certain very large (non-noetherian) schemes. This is joint work with Johan de Jong.