

Reformulations of Hartshorne's conjecture.

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Abstract

A well-know conjecture by Hartshorne states that any smooth subvariety of dimension n in a projective space of dimension N must be a complete intersection if $n > 2/3N$. We will discuss Hartshorne's conjecture in terms of extendability of vector bundles. In fact, a conjecture about extendability of vector bundles would imply Hartshorne's conjecture when $n > 1/4(3N - 2)$. We will also discuss the extension of these conjectures to other ambient spaces.