



# Effective Non-vanishing of Asymptotic Adjoint Syzygies

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(Submitted on 31 Mar 2012)

The purpose of this paper is to establish an effective non-vanishing theorem for the syzygies of an adjoint-type line bundle on a smooth variety, as the positivity of the embedding increases. Our purpose here is to show that for an adjoint type divisor  $B = K_X + bA$  with  $b \geq n+1$ , one can obtain an effective statement for arbitrary  $X$  which specializes to the statement for Veronese syzygies in the paper "Asymptotic Syzygies of Algebraic Varieties" by Ein and Lazarsfeld. We also give an answer to Problem 7.9 in that paper in this setting.

Subjects: **Algebraic Geometry (math.AG)**

Cite as: [arXiv:1204.0123v1](#) [math.AG]

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[v1] Sat, 31 Mar 2012 19:02:02 GMT (9kb)

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