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ON THE EISENBUD-GREEN-HARRIS CONJECTURE

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Abstract

A generalization of the Macaulay's theorem on the growth of Hilbert functions of homogeneous ideals in $K[x_1, \dots, x_n]$ is conjectured by Eisenbud, Green and Harris in the 90s. The conjecture, also known as the EGH conjecture, states that the lex-plus-powers ideals show an extremal behavior among the homogeneous ideals containing regular sequences in terms of their Hilbert functions. In this talk, our focus will be on a case of the EGH conjecture for the homogeneous ideals containing a regular sequence of quadratic forms. This is a joint work with Mel Hochster.

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