

1081-13-134

**Sabine El Khoury** and **Hema Srinivasan\*** (srinivasanh@missouri.edu), Department of Mathematics, University of Missouri, Columbia, MO 65211. *Bounds for Gorenstein Hilbert Coefficients.*

For graded Gorenstein Algebras with quasi pure resolutions, the multiplicity satisfies a much stronger bounds than the ones for Cohen Macaulay, non Gorenstein algebras. The Multiplicity is the top coefficient of the Hilbert Polynomial,

$$P_S(x) = \sum_{i=0}^{d-1} (-1)^i e_i \binom{x+d-1-i}{x}$$

We extend analogous bounds for the higher coefficients  $e_i$ ,  $i > 0$  of the Hilbert Polynomial. This extends the result of Herzog and Zheng for Coehn Macaulay algebras. (Received February 07, 2012)