

1067-13-407

Douglas A Torrance* (torrance@vandals.uidaho.edu), G-7 Brink Hall, Department of Mathematics, University of Idaho, Moscow, ID 83844. *Bounds on the degrees of generators of Bruns ideals*. Preliminary report.

Let $I = (f_1, \dots, f_r)$ be a graded ideal in a polynomial ring R over a field. Stillman asked if there exists a bound on the regularity or projective dimension of R/I depending only on r and the degrees of the f_i . Bruns showed that for any such I , there exists a 3-generated J such that R/I and R/J , past a certain point, share a free resolution. Therefore, to answer Stillman's questions, we may restrict our attention to 3-generated ideals. However, we must take into account the degrees of the generators of J as they relate to the degrees of the f_i . In this talk, I examine this problem and present what is known.

This talk is based on work conducted at the 2010 Commutative Algebra Mathematical Research Communities by Dang Hop Nguyen, Wenbo Niu, Soumya Deeptha Sanyal, Emily E. Witt, Yi Zhang, and the presenter. (Received September 01, 2010)