Queen's Algebraic Geometry
— Seminar —

Using, computing, and bounding Waldschmidt constants

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Abstract

Motivated by work in number theory, in the 1970s Waldschmidt defined an asymptotic measure of the least degree of a polynomial ideal in n variables with given order of vanishing on a finite set of points in projective space. In the case of generic points in $\mathbb{P}^2$, determining the value of Waldschmidt's constant is equivalent to an open conjecture of Nagata. Recent work has related Waldschmidt's constant to an ideal containment problem: which symbolic powers of the ideal of the points are contained in a given power of the ideal? Waldschmidt constants are also relevant to an open question of Eisenbud and Velasco. Joint work with E. Guardo and A. Van Tuyl generalizes some of this work from points to lines in projective 3-space. Additional joint work with M. Dumnicki, T. Szemberg and H. Tutaj-Gasin'ska extends this to r-planes in projective N-space.

Monday 29 September 2014
16:30–17:30
319 Jeffery Hall