Department of Mathematics
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Lindsey Hill - Purdue University

ALGEBRAIC GEOMETRY AND COMMUTATIVE ALGEBRA SEMINAR

Speaker: Lindsey Hill
Purdue University

Date: Thursday, May 13, 2021

Time: 3:00 PM

Location: Zoom

Zoom URL: notredame.zoom.us/j/97739336655?pwd=QmUxd3V2Rndyd0VFNlc0RFBxK0xPQT09

Lecture Title:

The core and the first coefficient ideal for 0-dimensional monomial ideals

Abstract

The core of an ideal I is defined to be the intersection of all ideals over which I is integral. Let R be a polynomial ring in d variables over a field of characteristic zero. Polini, Ulrich and Vitulli proved that for 0-dimensional monomial ideals in this setting, the first coefficient ideal $I_{\{1\}}$ is the largest ideal integral over I that has the same core as I. It is desirable to know when the core is equal to the adjoint ideal of I^d since this gives a combinatorial description of the core. For 0-dimensional monomial ideals generated in one degree, I will give a characterization of when the core of I coincides with the adjoint of I^d. This talk is based on joint work with Rachel Lynn.