

ALGEBRAIC GEOMETRY AND COMMUTATIVE ALGEBRA SEMINAR

Speaker: Zhao Gao

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Date: Tuesday, August 31, 2021

Time: 2:30 PM

Location: 125 Hayes-Healy Hall

Zoom URL: NA

Lecture Title:

Cohomology of line bundles on the incidence correspondence

Abstract

For a finite dimensional vector space V , we consider the incidence correspondence $X \subset \mathbb{P}V \times \mathbb{P}V^\vee$. We completely characterized the vanishing and non-vanishing of the cohomology groups of line bundles on X in characteristic $p > 0$. If $\dim V = 3$, this is the result of Griffiths from the 70s. In characteristic 0 case, the cohomology groups are described for all V by the Borel-Weil-Bott theorem. In this talk, we will give graphical description of the nonvanishing behavior and sketch of proof. If time permits, we will investigate the character formula of the cohomology groups. This is joint work with Claudiu Raicu.