Mathematics, Statistics, and Computer Science **@ UIC**

Algebraic Geometry Seminar

A simple proof of Voisin's Theorem on Canonical Curves

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Abstract: The classical theorems of Noether–Petri on the ideals of canonically embedded curves are central in the theory of curves. In the 80s, Mark Green realized that these results should extend to a far broader statement about the entire resolution of the ideal. No major progress was made until Voisin resolved this conjecture for generic curves in 02 and 05. Voisin's proof was extremely sophisticated and used in a deep way the geometry of the situation. We will give a very short proof of her result, using little more than the basic yoga developed by Green, Ein and Lazarsfeld in the 80s. For even genus, our proof also resolves a deeper (and previously open) conjecture, describing in depth the structure of the extremal syzygy space.

Monday, March 2 at 4:00 PM in 427 SEO