Stanford Algebraic Geometry — Seminar —

CURVES OF GENUS 2, VECTOR BUNDLES, DUALITIES AND CLASSICAL ALGEBRAIC GEOMETRY

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Abstract

Let X be a curve of genus 2. When we start looking at vector bundles of a certain (low) rank on X, the natural question that arises is: can we classify them? This is a question of moduli. We know how to classify (isomorphism classes of) line bundles. For higher rank, it is a little more complicated. As in the case of moduli spaces of curves, although we know a lot about their structure, little is known about the geometry, in a classical sense, of specific examples. We know the picture for rank-2 vector bundles, so we now investigate the case of rank 3. Surprisingly, there are some ties to classical algebraic geometry, when the language of vector bundles was not even introduced, and we prove a global duality that "contains" another well-known duality as well as allows us to recover some beautiful geometry in a context of vector bundles.

Friday, October 22
3:15 p.m.
Room 383-N

http://math.stanford.edu/~vakil/s0405/