

Graduate Algebraic Geometry Seminar

Pathologies on surfaces in characteristic p , or how I found someone's paper is wrong

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Abstract: In this talk, I will present some constructions of algebraic surfaces in characteristic p which violate the Kodaira vanishing theorem. These surfaces also provide counterexamples to Fujita's positivity theorem for fibered surfaces. Further pathologies on these examples include the existence of non-closed global differential 1-forms and global vector fields, which are both known to be impossible in characteristic zero. I will survey the comparison of characteristic zero with characteristic p , sketch the construction, and mention how I encountered these results by noticing errors in a recent published paper.

Wednesday, September 2 at 3:00 PM in SEO 712