Columbia University
Algebraic Geometry Seminar

Johan deJong
MIT

THE PERIOD-INDEX PROBLEM FOR SURFACES

Let k be an algebraically closed field. Tsen's theorem says that any Brauer-Severi variety over a curve over k has a section. We'll discuss an analog for surfaces over k. Namely, given an element x of order n in the Brauer group of a smooth surface S, there should be a Brauer-Severi variety of relative dimension $n - 1$ over S representing x. This is called the period-index problem (for the surface S and the class x). The period index problem has a negative solution when the base has dimension 3 or more.

Friday, February 8, 2002
2:30pm
Mathematics 417