

Departmental Colloquium

Mapping class groups and rational points of algebraic curves

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Abstract: In this talk I will discuss the beginnings of a theory of characteristic classes of rational points of smooth projective curves. This theory is analogous to the theory of characteristic classes of vector bundles in which grassmanians are replaced by moduli spaces of curves. I will concentrate on the case where C is defined over the function field of another curve T . In this case, the curve corresponds to a family $X \rightarrow T$ of smooth projective curves over T . Rational points of C correspond to sections of the family $X \rightarrow T$. Such families are classified by maps from T into the moduli space of curves and rational points of C correspond to lifts of this map to the moduli space of 1-pointed curves. Mapping class groups are groups of isotopy classes of diffeomorphisms of a compact oriented surface. They enter the story as the cohomology of these moduli spaces is the cohomology of mapping class groups.

Friday, October 19 at 3:00 PM in SEO 636