Algebra
Seminar

Arithmetic Restrictions on Geometric Monodromy

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Abstract: Let X be an algebraic variety over a field k. Which representations of $\pi_1(X)$ arise from geometry, e.g. as monodromy representations on the cohomology of a family of varieties over X? We study this question by analyzing the action of $Gal(\bar{k}/k)$ on $\pi_1(X)$, where k is a finite or p-adic field. As a sample application of our techniques, we show that if A is a non-constant Abelian variety over $\mathbb{C}(t)$, such that $A[\ell]$ is split for some odd prime ℓ, then A has at least four points of bad reduction.

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Mathematics and Science Center: W306

Mathematics and Computer Science
Emory University