

Séminaire de théorie des nombres

Le 28 novembre 2016 à 14h (PRG)

Unlikely Intersections in certain families of abelian varieties and the polynomial Pell equation

Exposé de Laura Capuano
(Scuola Normale Superiore di Pisa)

Résumé : In a joint work with F. Barroero, we proved that, given n independent points on the Legendre family of elliptic curves of equation $Y^2 = X(X - 1)(X - c)$ with coordinates algebraic over $\mathbb{Q}(c)$, there are at most finitely many specializations of c such that two independent relations hold between the n points on the specialized curve. This result fits in the framework of the so-called Unlikely Intersections. We will see analogues of this result in certain families of abelian varieties and in a family of split semi-abelian varieties. We will finally explain some applications of these results to the study of the solvability of almost-Pell equations in polynomials.