Séminaire de théorie des nombres

Le 05 février 2018 à 14h (PRG)

Never Primitive points for elliptic curves

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Résumé : In analogy with the classical Artin Conjecture for primitive roots, in 1977, S. Lang and H. Trotter conjectured that, given an elliptic curve $E/\mathbb{Q}$ and a point $P \in E(\mathbb{Q})$ of infinite order, the set of primes p of good reduction for which $\langle P \bmod p \rangle = E(\mathbb{F}_p)$, has a density $\delta_{E,P}$. During this seminar we deal with the classification of curves and points for which $\delta_{E,P} = 0$ by analyzing the action of $\mathrm{Gal}(\overline{\mathbb{Q}}/\mathbb{Q})$ on the set $\frac{1}{\ell}P = \{Q \in E(\overline{\mathbb{Q}}) : \ell Q = P\}$ where ℓ is prime.