Séminaire de théorie des nombres

Le 06 mai 2024 à 14h (Jussieu)

Almost all quadratic twists have no integral points

Exposé de Stephanie Chan
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Résumé : For a given elliptic curve E in short Weierstrass form, we show that almost all quadratic twists have no integral points. Our result is conditional on a weak form of the Hall–Lang conjecture in the case that E has partial 2-torsion. The proof uses the reduction theory of binary quartic forms, Manin-type bounds for certain singular cubic surfaces, and character sum estimates drawn from Heath-Brown's analysis of Selmer group statistics for the congruent number curve. This is joint work with Tim Browning.