

Counting small points on subvarieties of powers of elliptic curves

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A theorem of Vojta-Faltings, conjectured by Lang as a generalization of the Mordell's conjecture, asserts that the rational points on subvarieties of abelian varieties lay in finitely many translates of abelian subvarieties contained in the given variety. Quantitative aspects of this result concern so far the number of translates of abelian subvarieties or the number of points in the case of curves. It has been conjectured, in particular by Mazur, that an upper bound for this number should depend on very few parameters.

A result of Rémond gives a significant step in these latter direction, concentrating the question on points of small heights. We present results enabling to deal with these "small" points, when the abelian variety is a power of an elliptic curve.