

SHARP HEIGHT ESTIMATES FOR ELLIPTIC CURVES

PAUL VOUTIER

ABSTRACT

In this seminar, we define different heights for points on elliptic curves and present new results about them.

Bounds for these heights, and their differences, are important for increasing our understanding of elliptic curves and also for their applications, which extend to many parts of number theory. We present some new sharp results (joint work with Yabuta) for such bounds for elliptic curves of the form $y^2 = x^3 + ax$ as well as discussing ongoing work on other families.