

abstract

ANALYTIC AND GEOMETRIC NUMBER THEORY SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

In the first half of the talk I will give details of my joint work with Henryk Iwaniec. We use half-dimensional sieve to obtain a lower bound for the density of rational points on the cubic Chatelet surface.

The cubic Chatelet surface can also be viewed as a quadratic family of elliptic curves. In the second half of the talk I will show that in the special case where the elliptic curves have complex multiplication, many of them have analytic rank (and consequently Mordell-Weil rank) one.

Certain inequalities for multiplicative functions play a crucial role in the error term analysis in both the results.