Regulators of elliptic curves over global fields

Fabien Pazuki

University of Copenhagen

`fpazuki@math.ku.dk`

In a recent collaboration with Pascal Autissier and Marc Hindry, we prove that up to isomorphisms, there are at most finitely many elliptic curves defined over a fixed number field, with Mordell-Weil rank and regulator bounded from above, and rank at least 4. We will explain how to obtain an even stronger result in the case of elliptic curves defined over a function field of positive characteristic, in particular removing the conditions on the rank (while adding a necessary assumption on the inseparability degree). This opens up interesting questions about surfaces.