

Melanie Matchett Wood: **Heuristics for boundedness of ranks of elliptic curves**

The set of rational points on an elliptic curve E over \mathbb{Q} has the structure of an abelian group, and in 1922 Mordell proved that this group is finitely generated. We present heuristics that suggest that there is a uniform upper bound on its rank as E varies over all elliptic curves over \mathbb{Q} . The heuristics model ranks and Tate-Shafarevich groups of elliptic curves by coranks and cokernels of skew-symmetric matrices with integer coefficients. This is joint work with Jennifer Park, Bjorn Poonen, and John Voight.