1135-14-410   **Sameera Vemulapalli*** (`sameera.vemulapalli@berkeley.edu`), 10225 Orange Avenue, Cupertino, CA 95014. *Uniform bounds for the number of rational points on symmetric squares of curves with low Mordell–Weil rank.*

A central problem in Diophantine geometry is to uniformly bound the number of K-rational points on a smooth curve X/K in terms of K and its genus g. A recent paper by Stoll proved uniform bounds for the number of K-rational points on a hyperelliptic curve X provided that the rank of the Jacobian of X is at most $g-3$. Katz, Rabinoff and Zureick-Brown generalized his result to arbitrary curves satisfying the same rank condition.

In this paper, we prove conditional uniform bounds on the number of rational points on the symmetric square of X outside its algebraic special set, provided that the rank of the Jacobian is at most $g - 4$. We also find rank-favorable uniform bounds in the hyperelliptic case. (Received August 31, 2017)

1