

1023-11-1490

Susan L. Schmoyer* (schmoyer@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742. *The Triviality and Nontriviality of Tate–Lichtenbaum Self-Pairings.*

Let E be an elliptic curve defined over \mathbb{F}_q such that $E[n] \subset E(\mathbb{F}_q)$. For attacking the elliptic curve discrete logarithm problem it is useful to know when points pair with themselves nontrivially under the Tate–Lichtenbaum pairing. In this talk I will characterize when all points in $E[n]$ have trivial self-pairings. This result is expressed in terms of the action of the Frobenius endomorphism on $E[n^2]$. I will then generalize this result to Jacobians of algebraic curves of arbitrary genus. (Received September 26, 2006)