Luke Giberson* (lgibers@g.clemson.edu). Average Twin Prime Conjecture for Elliptic Curves over Abelian Number Fields.

Let $E/\mathbb{Q}$ be an elliptic curve. For a prime $p$ of good reduction, let $\#E(\mathbb{F}_p)$ denote the number of $\mathbb{F}_p$-rational solutions to $E$. In 1988, Koblitz conjectured an asymptotic

$$\pi_E^{\text{twin}}(X) = \# \{ p \leq X : p \text{ prime and } \#E(\mathbb{F}_p) \text{ prime} \} \sim C_E \cdot \frac{X}{\log^2 X},$$

where $C_E$ is an explicit constant depending on the curve $E$. A recent paper of Balog, Cojocaru, and David proved this conjecture on average. In this work, the author obtains a similar average result for curves over an arbitrary abelian number field. (Received September 19, 2016)