1056-11-1936 Nahid Walji* (nahid@caltech.edu). Supersingular distribution on average for congruence classes of primes.

A general question of interest is to know, for elliptic curves over a number field, the distribution of supersingular primes of degree one. We begin by modifying the Lang-Trotter heuristic to address the case of an abelian extension, then we show that it holds on average (up to a constant) for a family of elliptic curves by using ideas of David-Pappalardi. (Received September 22, 2009)