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On the Main Conjecture for Elliptic Curves over $\mathbb{Q}$ at Primes of Supersingular Reduction

ABSTRACT: Together with R. Greenberg and R. Pollack we have proved that if two ellipitc curves over $\mathbb{Q}$ are congruent modulo a prime $p > 2$, which is a prime of supersingular reduction for both, then if the μ-invariants vanish and the Main conjecture holds for one of the curves then the same is true for the other curve. This result together with recent results of Kurihara allow us to verify the Main Conjecture for a large family of elliptic curves at primes of supersingular reduction.