

Anomalous primes of the elliptic curve $E_D : y^2 = x^3 + D$

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Abstract: Let $D \in \mathbb{Z}$ be an integer which is neither a square nor a cube in $\mathbb{Q}(\sqrt{-3})$. B. Mazur conjectured that there are infinite many anomalous primes for the elliptic curve $E_D : y^2 = x^3 + D$. We show that the Hardy-Littlewood Conjecture implies Mazur's conjecture.