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Xian-Jin Li* (xianjin@math.byu.edu), Department of Mathematics, Brigham Young University, Provo, UT 84602. *A problem on zeros of L -series of elliptic curves.*

In this paper we study an analogy between a positive definite quadratic form for elliptic curves over finite fields and a positive definite quadratic form for elliptic curves over the rational number field. A question is posed of which an affirmative answer would imply the analogue of the Riemann hypothesis for elliptic curves over the rational number field. (Received August 05, 2006)