

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

On the number of isomorphism classes of CM elliptic curves defined over a number field

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Monday, Oct 20 at 4:15 pm
111 Cummington Street, MCS B21
Tea and cookies in MCS 144 at 4:00 pm

Abstract: The theory of complex multiplication has proven to be an essential tool in number theory, mainly due to the connections with class field theory developed by Kronecker, Weber, Fricke, Hasse, Deuring, and Shimura, among others. Certain important results have been shown first in the case of complex multiplication. Thus, it is a natural question to find all the isomorphism classes of elliptic curves with complex multiplication defined over a fixed number field, for which these important results hold. In this talk, we prove an upper bound on the number of isomorphism classes of CM elliptic curves defined over a number field of a fixed odd degree N , in terms of the prime factorization of N .