

Boğaziçi MATH COLLOQUIUM

Counting (hyper)elliptic curves with a given discriminant

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Abstract:

The discriminant of a (hyper)elliptic curve encodes the primes of bad reduction of the curve. The number of isomorphism classes of (hyper)elliptic curves over a number field with the same discriminant is known to be finite. A more involved task is to count, if not list, all such isomorphism classes. In this talk, we survey old and recent results for elliptic curves. We also explain how one may tackle the same question for genus 2 curves.

Date : Wednesday, December 4, 2019

Time: 13:30

Place: TB 130, Boğaziçi University