

AVERAGE VALUE THEOREMS OF THE CLASS NUMBER IN FUNCTION FIELDS

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1. ABSTRACT

In this talk we present an asymptotic formula for $\sum L(1, \chi)$, where the average is taken over a family of hyperelliptic curves of genus g over a fixed finite field \mathbb{F}_q as $g \rightarrow \infty$ making use of the analogue of the approximate functional equation for such L -functions. As a corollary, we obtain a formula for the average of the class number of the associated rings $\mathbb{F}_q[T, \sqrt{D}]$.

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