

Asymptotic distribution of Frobenius roots for curves and abelian varieties over a finite field

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Abstract

We are interested in the behaviour of Frobenius roots when the base field is fixed and the genus of the curve or the dimension of the abelian variety tends to infinity. I shall explain how to put the question and what are the answers. This happens to be a question in algebraic number theory and harmonic analysis. For curves (and for number fields) these are my old results with Serge Vladuts, for abelian varieties those of J.-P. Serre (séminaire Bourbaki, 2018) and my work in progress with Nicolas Nadirashvili.