



Mathematics and CS Seminar

On Selmer groups of cyclic twist families of elliptic curves over global function fields

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MPIM

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Let $K = \mathbb{F}_q(t)$ be the global function field of characteristic coprime to 2 and 3 . Let E be a non-isotrivial elliptic curve over K . Fix a prime number l such that the primitive l -th roots of unity μ_l is contained in \mathbb{F}_q . Let L be a $\mathbb{Z}/l\mathbb{Z}$ geometric Galois extension over K . We will focus on utilizing the Grothendieck-Lefschetz trace formula to compute a lower bound on the probability that the rank of $E(L)$ is equal to the rank of $E(K)$. If time allows, we will also explore how one can combine a probabilistic approach to obtain new geometric insights on the cohomology groups of some Hurwitz spaces.

Thursday, October 10, 2024 01:00pm - 03:00pm

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



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