Seminar/Talk

Exponential sums modulo p^m for Deligne polynomials

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Host: Tim Browning

Let f be a non-constant polynomial in n variables of degree d>1 with integer coefficients. Suppose that g is the homogeneous part of highest degree of f and the projective scheme V(g) associated with g is smooth. In the proof of Weil's conjecture, Deligne showed that if p is a large enough prime then p^{-n}|\sum_{x\in (\ZZ/p\ZZ)^n}\exp(2\pi if(x)/p)|\leq (d-1)^n p^{-n/2}. It is natural to ask about an analogue of Deligne's theorem for exponential sums modulo p^m. In this talk, I will introduce a conjecture on this question and my recent result in this direction.

Thursday, May 5, 2022 01:00pm - 03:00pm
Heinzel Seminar Room (I21.EG.101), Office Building West

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