

1124-14-17

Lubjana Beshaj* (beshaj@math.utexas.edu), UT Austin, Dept. of Math., RLM 8.100, Austin, TX 78712. *Minimal models for superelliptic curves with extra automorphisms*. Preliminary report.

Let K be an algebraic number field and \mathcal{O}_K its ring of integers. A superelliptic curve \mathcal{X} defined over \mathcal{O}_K is a planar curve with equation of the form $y^n = f(x)$, for $n \geq 2$ and some $f \in \mathcal{O}_K[x]$. Finding a nice polynomial $f(x)$ such that it has “small” coefficients correspond to the case when the zero map $\epsilon(f^*)$ of the homogenized form $f^* \in K[x, z]$ is in the fundamental domain of the modular group $\Gamma_K := SL_2(\mathcal{O}_K)/\{\pm I\}$ action on the upper-half plane. In this talk we discuss how to choose f in the case when the curve \mathcal{X} has extra automorphisms and $K = \mathbb{Q}$. (Received September 08, 2016)