

1135-11-1568

NicoleLooper* (nlooper@math.northwestern.edu). *A lower bound on the canonical height for polynomials.*

Let K be a number field. The canonical height \hat{h}_ϕ associated to a rational function $\phi : \mathbb{P}^1(K) \rightarrow \mathbb{P}^1(K)$ measures arithmetic information about the forward orbits of points under ϕ . Silverman conjectured that for a given number field K and $d \geq 2$, there exist constants $\kappa_1 > 0$ and κ_2 such that for all degree d rational maps $\phi \in K(x)$ and all $\alpha \in K$, either α is preperiodic under ϕ , or $\hat{h}_\phi(\alpha) \geq \kappa_1 h_{\mathcal{M}_d}(\phi) + \kappa_2$, where $h_{\mathcal{M}_d}$ is a height on the moduli space \mathcal{M}_d of degree d rational functions. We will discuss a proof of such a uniform lower bound across large classes of polynomials. (Received September 23, 2017)