

1136-20-90

Nham V Ngo* (nvngo@ung.edu), University of North Georgia - Gainesville, Department of Mathematics, 3820 Mundy Mill Rd, Oakwood, GA 30566, and **Paul Levy** (p.d.levy@lancaster.ac.uk) and **Klemen Sivic** (klemen.sivic@fmf.uni-lj.si). *On the complexities of Frobenius kernels and finite Chevalley groups.*

Let G be a simple algebraic group defined over an algebraically closed field k of prime characteristic p . For a positive integer r , let $F^r : G \rightarrow G$ be the r -th iteration of the Frobenius morphism, let $G_r = \text{Ker}(F^r)$ the r -th Frobenius kernel of G and $G(\mathbb{F}_{p^r}) = G^{F^r}$ the finite Chevalley group. In this talk, we will present our results on the complexity $c_{G_r}(M)$ of a finite dimensional G -module M over G_r and then introduce an inequality between $c_{G_r}(M)$ and $c_{G(\mathbb{F}_{p^r})}(M)$. (Received January 17, 2018)