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Nham Vo Ngo* (nvngo@ung.edu). *Low degree cohomology of Frobenius kernels.*

Let G be a simple algebraic group defined over an algebraically closed field of characteristic $p > 0$. For a positive integer r , let G_r be the r -th Frobenius kernel of G . These G_r are finite group schemes whose cohomology are related to that of G and corresponding finite groups of Lie type. In this talk, we present some computational results for low degree cohomology of G_r . In particular, we show that there is a number m depending on p and the type of G such that the cohomology $H^n(G_r, k)$ is isomorphic to $H^n(G_1, k)$ for all $r \geq 1, n \leq m$. This consequently implies that for same values of r and n

$$H^n(G_r, k)^{(-r)} \cong \operatorname{ind}_B^G H^n(B_r, k)^{(-r)}$$

where B is a Borel subgroup of G . (Received August 11, 2019)