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**Christopher P Bendel, Daniel K Nakano and Cornelius Pillen\***

(pillen@southalabama.edu), Department of Mathematics and Statistics, University of South Alabama, Mobile, AL 36608. *Cohomology for Algebraic Groups and Frobenius Kernels*. Preliminary report.

Let  $G$  be a simple simply connected algebraic group defined over an algebraically closed field of characteristic  $p > 0$ . Let  $B$  be a Borel subgroup of  $G$  and  $U$  its unipotent radical. In this talk we introduce some new results describing the cohomology of these groups and their Frobenius kernels. Also included are calculations of ordinary Lie algebra cohomology for  $\text{Lie}(U)$ . (Received July 11, 2014)