1033-18-123 **Caroline B Wright*** (cwright@math.uga.edu), UGA Department of Mathemati, Boyd Graduate Studies Research Center, Athens, GA 30602. *Second Cohomology Groups for Frobenius Kernels.* Preliminary report.

Let G be a simple simply connected affine algebraic group scheme defined over an algebraically closed field k of characteristic p, B be a Borel subgroup of G, and U be the unipotent radical of B. Let $F : G \to G$ be the Frobenius map and G_r (respectively B_r, U_r) be the r-th Frobenius kernels of G (respectively B,U). Bendel, Nakano, and Pillen computed the following cohomology groups when $p \geq 3$: $\mathrm{H}^2(B, \lambda)$, $\mathrm{H}^2(G_r, H^0(\lambda))$, $\mathrm{H}^2(B_r, \lambda)$, and $\mathrm{H}^2(U_1, \lambda)$, where $H^0(\lambda) = \mathrm{ind}_B^G \lambda$.

In this talk, I will present my results which complete the project when $p = 2$ and illustrate how the aforementioned cohomology calculations are interrelated. (Received September 07, 2007)