

1116-VA-938

**Jared Warner\*** ([jared.warner@guttman.cuny.edu](mailto:jared.warner@guttman.cuny.edu)). *A Visualization of Quillen Stratification*. Preliminary report.

Let  $p$  be a prime number. A result due to Daniel Quillen states that the cohomology of a finite group  $\Gamma$  with coefficients in the finite field of  $p$  elements can be built up from pieces coming from abelian subgroups of  $\Gamma$  with exponent  $p$ . In this talk, we briefly review this “stratification” and present a few concrete computations which elucidate Quillen’s result. The computations are accompanied by visualizations constructed with the aid of the computer algebra system Magma. We’ll also describe how one might use Quillen’s stratification to study and compute modular cohomology algebras of finite groups. In particular, we’ll present current work using Quillen’s result and Magma to understand the cohomology algebra of the finite group  $\mathrm{GL}_3(\mathbb{F}_p)$ . (Received September 15, 2015)