1037-14-80   **Elizabeth Beazley*** (`townsend@math.uchicago.edu`), 5734 S University Ave, Chicago, IL 60637.
Codimensions of Newton Strata in the Iwahori Case.

The Newton stratification historically arises in the context of abelian varieties in positive characteristic. I will describe the Newton stratification on $GL_n(F)$, where F is a Laurent power series field. One primary goal will be to produce a formula for the codimensions of these Newton strata, but we will formulate some combinatorial and Lie-theoretic conjectures along the way. We will conclude by exploring several applications of our methods to the study of affine Deligne-Lusztig varieties inside the affine flag manifold. (Received January 23, 2008)