1037-22-309 **J. Matthew Douglass*** (douglass@unt.edu), Department of Mathematics, PO Box 311430, University of North Texas, Denton, TX 76203-1430. *Parabolic generalized exponents and reflection arrangements.* Preliminary report.

Let G be a connected, reductive, complex, algberaic group with Lie algebra $\mathfrak{g}$. Let T be a maximal torus in G with Lie algebra $\mathfrak{t}$. Let W the Weyl group of (G,T) and let V a finite dimensional, irreducible representation of G.

Generalizing a theorem of Chevalley, Broer has characterized when the generalized exponents of V are the same as the fake degree of V^T. The representation V is said to be "small" if equality holds.

In this talk we will discuss a parabolic generalization of the notion of a small representation of G.

A theorem of Borho describing regular functions on a sheet in $\mathfrak{g}$ implies that the trivial representation of G is small for every parabolic subgroup of G. Determining the parabolic subgroups for which the adjoint representation of G small (in the parabolic sense) leads to an interesting question about arrangements for finite reflection groups. When W is a Coxeter group in one of the infinite families, we can answer this question using a case-by-case analysis. (Received February 05, 2008)