

MATHEMATICS DEPARTMENT  
North Carolina State University

ALGEBRA SEMINAR

Friday, March 16, 2007

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University of Arizona

Extensions of real-valued characters  
and Shintani descent

**ABSTRACT:** In this talk, we will deal with the finite general linear group,  $GL(n, q)$ , and the finite unitary group,  $U(n, q^2)$ . Both of these groups may be extended by the inverse-transpose automorphism, and the irreducible representations of the original groups which can be extended to irreducibles of the larger group are exactly those which have real-valued characters. We will give a method of evaluating the values of these extended characters on certain elements related to regular unipotent elements in the smaller group. The motivation for this study comes from two places: one is Shintani descent (or base change), and the other is the study of character theory of finite groups of Lie type coming from disconnected groups. This work is joint with R. Gow of University College Dublin.

3:00 - 3:50 pm    HA 335

Faculty and Students are invited to attend.