

**Meeting:** 1001, Evanston, Illinois, SS 19A, Special Session on Algebraic Representations and Deformations

1001-20-266            **Leonard Scott\***, Dept Math, Univ Virginia, Kerchof Hall, PO Box 400137, Charlottesville, VA  
22904-4137. *Extensions, Levi subgroups, and Lusztig conjectures.*

I will talk about some recent work, especially joint work with B. Parshall, and with E. Cline and B. Parshall, on extensions of modules for algebraic and quantum groups. The relationship with Levi subgroups is a particular focus, and works especially well in the presence of the Lusztig conjecture (known to hold for most char. 0 quantum root of unity cases, and for large primes, depending on the root system, in the  $q=1$  char.  $p$  case). A byproduct of this research is a necessary and sufficient condition for the Lusztig conjecture in the type A char.  $p$  case, which can be stated in terms of symmetric group cohomology (properties of  $\text{Ext}^1$  groups between some easily constructed and largely familiar symmetric group modules). (Received August 28, 2004)