1083-20-57   **Leonard L Scott*** (`lls2l@virginia.edu`). *Forced gradings and p-filtrations.*

This is joint work with Brian Parshall. A main result is that Weyl modules, for semsimple algebraic groups G in characteristic p, have p-filtrations, when p is at least 2h-2 (with h the Coxeter number) and also sufficiently large that the Lusztig character formula holds for all restricted irreducible modules. "p-filtrations" are defined as having all sections equal to tensor products of restricted irreducible modules with twisted Weyl modules. A main technique involves "forcing" a grading on associated quasi-hereditary algebras by passing to the graded algebras associated to their radical series. Needless to say, a lot of effort is required to make these algebras work in a satisfactory way, even to make them again quasi-heredtary. As time permits, I will discuss applications, including instances where the Koszul property can be obtained for such algebras with a forced grading. The "forcing" approach actually avoids geometric approaches to Koszulity, which are not immediately available in this setting, though it is possible to raise relevant geometric questions (Received August 14, 2012)