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Filtering Weyl modules. Preliminary report.

In this talk, I will discuss some recent joint work with Leonard Scott concerning filtrations of Weyl modules. The Weyl modules in question are either Weyl modules for semisimple, simply connected algebraic groups in positive characteristic or they are Weyl modules for quantum groups at roots of unity. In each case, the sections are completely reducible and the multiplicities of the irreducible constituents are calculated. Some applications are indicated, e.g., to q -Schur algebras and Hecke algebras. (Received August 02, 2010)