Title: Generalized orbital varieties and MV modules

Abstract: Let O be the conjugacy class of a nilpotent matrix, and let C be its closure. By work of Joseph and Spaltenstein, the irreducible components of the subvariety of uppertriangular matrices in C, (aka orbital varieties,) can be labeled by standard Young tableaux. We explain how this labeling generalizes to the intersection of C and and a Slodowy slice, S. This question is motivated by the fact (due to Mirkovic-Vybornov) that such intersections are related to the Mirkovic-Vilonen (MV) construction of a cohomological crystal basis of GL(m). By D., the Mirkovic-Vybornov isomorphism maps the generalized orbital varieties to the MV cycles such that the crystal structure on tableaux matches the crystal structure on MV cycles. Our labeling enables us to determine equations of MV cycles and therefore compare the MV basis to another basis in bijection with tableaux - Lusztig's dual semicanonical basis - under the magnifying glass of the Duistermaat-Heckman measure.