1037-20-273 **Daniel S. Sage*** (sage@math.lsu.edu), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *Perverse coherent sheaves on partial flag varieties.*

Let G be an algebraic group acting on a variety X. Deligne and Bezrukavnikov have introduced the category of equivariant perverse coherent sheaves on X. They have shown that if X has a finite number of orbits and adjacent orbits have dimensions differing by two, then this category has nice properties reminiscent of those for perverse constructible sheaves. In particular, the category is Artinian, and every simple object is constructed by applying a fully faithful intersection cohomology functor to an irreducible equivariant vector bundle on an orbit. The Deligne-Bezrukavnikov theory has had several applications to representation theory, but its usefulness is limited by the strong conditions that must be satisfied by the G-variety. In this talk, I discuss joint work with Achar in which we show (using Achar's theory of staggered sheaves) that the derived category of coherent sheaves on a partial flag variety, equivariant for a Borel subgroup, admits a nonstandard t-structure whose core is an abelian category with the above desirable properties. (Received February 04, 2008)