1146-20-387   **William D. Hardesty*** (`whardesty@lsu.edu`), Baton Rouge, LA 70808. *Co-t-structures on derived categories of coherent sheaves and the cohomology of tilting modules.*

The theory of co-t-structures provides a useful framework for the study of tilting modules, and related objects. In this talk, we we will construct a co-t-structure on the derived category of coherent sheaves on the nilpotent cone, which we will then compare with certain "canonically defined" co-t-structures that exist for the derived category of coherent sheaves on the cotangent bundle of any partial flag variety. These methods are employed to show that the push-forwards of the "exotic parity objects" (an important class of sheaves which correspond to tilting modules) along the Springer resolution give indecomposable objects in the co-heart of the co-t-structure for the nilpotent cone. We will also demonstrate how this approach can be used to give a new proof of the "Humphreys conjecture" on the support varieties of tilting modules in type A (originally proven by the speaker). This talk includes joint work with Pramod Achar. (Received January 27, 2019)

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