1033-20-148        **Pramod N. Achar\*** (`pramod@math.lsu.edu`) and **Anthony Henderson**. *Orbit closures in the enhanced nilpotent cone.* Preliminary report.

Let $V$ be complex vector space of dimension $n$. The enhanced nilpotent cone (for type A) is the variety $V \times \mathcal{N}$, where $\mathcal{N}$ is the ordinary nilpotent cone for the group $GL(V)$. The $GL(V)$-orbits in this variety are parametrized by pairs of partitions with total sum $n$, and the closure partial order on orbits admits a nice combinatorial description in terms of partitions. I will discuss this as well as connections to Kato's "exotic" nilpotent cone, Shoji's generalizations of Green functions, and conjectures on local intersection cohomology groups. (Received September 09, 2007)