April 1, 2015: David Vogan (MIT), *Coherent sheaves on nilpotent cones II.*

Suppose G is a complex reductive algebraic group, and $\mathcal{N} \subset \mathfrak{g}^*$ is the nilpotent cone. A conjecture of Lusztig, proved by Bezrukavnikov, provides a natural bijection

irr. G-eqvt vector bdles on G orbits on $\mathcal{N} \longleftrightarrow$ dom. weights for G.

In the first talk, I explained an algorithm for computing this bijection, and carried out the computation for $GL(3)$. In this talk, I will explain how the algorithm leads to an algorithm for computing characteristic cycles for Harish-Chandra bimodules; how to generalize both algorithms to the setting of Harish-Chandra modules; and possible applications to unitary representations.