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David Vogan* (dav@math.mit.edu), Room E17-442, MIT, 77 Massachusetts Avenue,
Cambridge, MA 02139. *Coherent sheaves on nilpotent cones*. Preliminary report.

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, says that there is a natural bijection between irreducible G -equivariant vector bundles on G orbits on \mathcal{N} , and dominant weights for G .

I'll explain a definition of this bijection in terms of finite-dimensional representation-theory, and applications to infinite-dimensional representations that would follow from computing it. (Received August 20, 2015)