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Peter E Trapa* (ptrapa@math.utah.edu), Department of Mathematics, University of Utah, Salt Lake City, UT 84112-0090. *The Lusztig-Vogan bijection*. Preliminary report.

Independently, Lusztig and Vogan conjectured the existence of a natural bijection between dominant weights for a reductive group, and pairs consisting of a nilpotent orbit and an irreducible representation of the isotropy group. Lusztig was led to the conjecture from the theory of two-sided cells in affine Weyl group; Vogan was motivated by the theory of tempered representations of complex (or, more generally, real) reductive groups. Explicitly computing the conjectured bijection has important consequences.

Bezrukavnikov proved the Lusztig-Vogan conjecture, but the proof didn't shed light on how to compute it. Achar explicitly computed the bijection for $GL(n)$, but progress outside of this case has been limited.

The purpose of this talk is to recall the motivation for the Lusztig-Vogan conjecture (and its more general version due to Vogan), and discuss recent progress on computing the bijection explicitly. (Received February 15, 2016)