MISHTY RAY, Carleton University Some results on geometric analogues to local A-packets

Vogan's perspective on the local Langlands correspondence attaches to each enhanced L-parameter a perverse sheaf on the Vogan variety for a fixed infinitesimal parameter. Following his work with Adams and Barbasch on real groups, Vogan suggested a geometric analogue to local A-packets. Cunningham et al reformulated this proposal by using the vanishing cycles functor on equivariant perverse sheaves on the Vogan variety. The proposed geometric analogues are called ABV-packets and the conjecture that ABV-packets generalize local A-packets is called Vogan's conjecture. The key strategy of the proof for classical groups is to relate endoscopic transfer maps with restriction of perverse sheaves. Not used in the proof, but of independent interest, is the result that parabolic induction is dual to geometric restriction of perverse sheaves. I will report on the status of Vogan's conjecture and make precise the aforementioned related result. These results are in collaboration with some or all members of the group consisting of Clifton Cunningham, Alex Hazeltine, Chi-Heng Lo, Baiying Liu, and Bin Xu.