



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 155 ,Ziskind Building
on Tuesday, Feb 25, 2020
at 11:15

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Geometric restrictions on nilpotent orbits associated to distinguished
representations of reductive groups.

Abstract:

Let G be a reductive group over a local field, and H be a spherical subgroup. An irreducible representation of G is said to be distinguished by H if it has an H -invariant continuous linear functional. The study of distinguished representations is of much current interest, because of their relation to the Plancherel measure on G/H and to periods of automorphic forms.

While a complete classification seems to be out of reach, in a joint work with E. Sayag we established simple geometric necessary conditions for distinction. The conditions are formulated in terms of the nilpotent orbit associated to the representation. In the talk I will focus on the case of real reductive G , based on the recent preprint [arXiv:2001.11746](https://arxiv.org/abs/2001.11746). Our main tool is the theory of associated varieties of modules over the Lie algebra of G .