Representations of reductive groups distinguished by symmetric subgroups

Abstract:

We will discuss representation theory of a symmetric pair (G,H), where G is a complex reductive group, and H is a real form of G. The main objects of study are the G-representations with a non trivial H-invariant functional, called the H-distinguished representations of G.

I will give a necessary condition for a G-representation to be H-distinguished and show that the multiplicity of such representations is less or equal to the number of double cosets $B\backslash G/H$, where B is a Borel subgroup of G.