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 \(G\).