

Algebra and Geometry Seminar

Speaker: Allan Francis Merino (University of Ottawa)

Title: Transfer of characters in the theta correspondence

Abstract: For every irreducible reductive dual pair (G, G') in $Sp(W)$, R. Howe proved the existence of an isomorphism between the spaces $R(G)$ and $R(G')$, where $R(G)$ is the set of infinitesimal equivalence classes of irreducible admissible representations of \tilde{G} ; (preimage of G in the metaplectic group) which can be realized as a quotient of the metaplectic representation. All the representations appearing in the previous duality have a distribution character, and characters are analytic objects completely identifying the irreducible representations. In particular, one natural question is to understand the transfer of characters in the previous duality (or Howe's duality).

In 2000, T. Przebinda introduced the Cauchy-Harish-Chandra integral and conjectured that the transfer of characters should be obtained via this map. In my talk, after recalling carefully Howe's duality theorem and the construction of the Cauchy-Harish-Chandra integral, I will explain what is known about the conjecture, explain recent results I got and some ongoing projects for the lift of discrete series representation of \tilde{G} for a general dual pair (G, G') .