

Title: Boundaries of K -types in discrete series

Abstract: A fundamental problem about irreducible representations of a reductive Lie group G is understanding their restriction to a maximal compact subgroup K . In case of discrete series, the Blattner character formula gives the multiplicity of any given irreducible K -representation (or K -type) as an alternating sum. It is not immediately clear from this formula which K -types, indexed by their highest weights, have non-zero multiplicity. Evidence suggests that the collection is very close to a set of lattice points in a convex polyhedron. I shall describe a recursive algorithm for finding the boundary facets of this polyhedron.