HARISH-CHANDRA'S ADMISSIBILITY THEOREM AND BEYOND

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Abstract:

Let G be a real reductive linear Lie group, and K a maximal compact subgroup of G. Harish-Chandra's admissibility theorem asserts that any irreducible unitary representation decomposes into a direct sum of irreducible K-modules with each multiplicity finite. Such a theorem does not hold if we replace the Riemannian symmetric pair (G, K) by a reductive symmetric pair (G, G') in general. We explore a "nice" framework for the restriction of an irreducible representation of G to the subgroup G' in this generality with focus on finite/uniformly bounded multiplicity property.

If time permits, I also will discuss its application to analysis of locally pseudo-Riemannian symmetric spaces.