The decomposition of discrete series

Abstract:

B. Gross and D. Prasad first formulated their famous conjectures about the restriction of representations of discrete series representations in the original paper Discrete series of an orthogonal group $G = SO_n$ when restricted to an orthogonal subgroup $G' = SO_{n-1}$ published in 1992. In this lecture we consider representations $\sigma$ in the discrete spectrum of $L^2(G=H)$ where $G=SO(p,q)$ and $H = G_\iota$ for an involution $\iota$ and their restriction to a subgroup $G' = SO(p-1,q)$. I formulate similar conjectures relating the restriction to interlacing patterns and in the last part I discuss the evidence supporting these conjectures.