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 $G = \text{SO}_n$ when restricted to an orthogonal subgroup $G' = \text{SO}_{n-1}$ published in 1992. In this lecture we consider representations in the discrete spectrum of $L_2(G=H)$ where $G=\text{SO}(p,q)$ and $H = G_\sigma$ for an involution $\sigma$ and their restriction to a subgroup $G' = \text{SO}(p-1,q)$. I formulate similar conjectures relating the restriction to interlacing patterns and in the last part I discuss the evidence supporting these conjectures.