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Harmonic analysis on *p*-adic symmetric spaces, the discrete spectrum

Let F be a p-adic field and $G = \mathbf{G}(F)$ the F-points of a connected reductive group defined over F. Given an involution θ of G we define H to be the subgroup of θ -fixed points. The quotient $H \setminus G$ is a p-adic symmetric space. In this talk we will discuss harmonic analysis on $H \setminus G$ and the notion of distinguished representations. In particular, we will consider the problem of constructing the irreducible G-representations that occur as subrepresentations of the space of square-integrable functions on $H \setminus G$, the so called relative discrete series (RDS). We will give a construction of RDS representations for two symmetric quotients of p-adic general linear groups.