

中国科学院数学与系统科学研究院
数学研究所
数学科学全国重点实验室

表示论讨论班

Speaker: 陈飞（清华大学丘成桐数学科学中心）

Inviter: 邹佳良

Language: Chinese

Title: On local intertwining periods

Time & Venue: 2026 年 10 月 9 日（星期五） 10:30-11:30

南楼 N820

Abstract: Let F be a non-Archimedean local field with $\text{char}(F) \neq 2$ and let G be a reductive group over F . Let θ be an involution of G and let $H = G^\theta$ be the corresponding symmetric subgroup. Given a smooth character $\chi: H \rightarrow \mathbb{C}^\times$, one of the central problems of the relative Langlands program is to understand when a representation is (H, χ) -distinguished. That is, for which $\pi \in \text{Rep}(G)$, $\text{Hom}_H(\pi, \chi) \neq 0$ holds? In this talk, we focus on the case where $\pi = I_P^G(\sigma)$ is an induced representation. Here P is a parabolic subgroup of G and M is a Levi of P that is θ -stable. For any $\ell \in \text{Hom}_{\{H \cap M\}}(\sigma, \delta_{\{P \cap M\}} \delta_{P^{-1}}^{-1} \chi)$,

$f \in I_{PG}(\sigma)$ and λ a θ anti-invariant unramified character of M , one can formally write down an integral $\int_{\{H \cap P \setminus H\}} \chi^{-1}(h) \ell(f_\lambda(h)) dh$, known as the local intertwining period. When the integral converges absolutely, it defines a non-zero element in $\text{Hom}_H(I_{PG}(\sigma^\otimes \lambda), \chi)$. Previously, it was known in several special cases or under certain modulus assumption that the above integral converges absolutely for λ in an open subset and admits a meromorphic continuation. We study the local intertwining periods from two aspects. On the one hand, we develop an algebraic theory which works for any algebraically closed coefficient field of characteristic different from the residue characteristic of F . On the other hand, when the coefficient field is $\mathbb{C}$, we establish the absolute convergence and meromorphic continuation in full generality. This is based on joint work with Nadir Matringe.