Prehomogeneity on Quasi-Split Classical Groups and Poles of Intertwining Operators

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Abstract. Suppose that $P = MN$ is a maximal parabolic subgroup of a quasisplit, connected, reductive classical group $G$ defined over a non-Archimedean field and $A$ is the standard intertwining operator attached to a tempered representation of $G$ induced from $M$. In this paper we determine all the cases in which $\text{Lie}(N)$ is prehomogeneous under $\text{Ad}(m)$ when $N$ is non-abelian, and give necessary and sufficient conditions for $A$ to have a pole at 0.

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