Erdős-Ko-Rado Properties of some Finite Groups

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Let $G$ be a subgroup of the symmetric group $\text{Sym}(X)$ and $A$ be a subset of $G$, where $X = \{1, 2, \ldots, n\}$. The subset $A$ is said to be intersecting if for any pair of permutations $\sigma, \tau \in A$ there is $i \in X$ such that $\sigma(i) = \tau(i)$. A group $G$ has Erdős-Ko-Rado (EKR) property, if the size of any intersecting subset of $G$ is bounded above by the size of a point stabilizer in $G$. The group $G$ has the strict EKR property if every intersecting set of maximum size is the coset of the stabilizer of a point.

In some recent papers [1–4], the Erdős-Ko-Rado property of $2$–transitive groups and the groups $\text{PGL}_2(q)$, $\text{PGL}_3(q)$ are investigated. In this talk, we report our recent results on the Erdős-Ko-Rado property of some different classes of finite groups.

References


