



THE CLASSIFICATION OF PERMUTATION GROUPS WITH MAXIMUM ORBITS

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Abstract

Let G be a permutation group on a set Ω with no fixed points in Ω and let m be a positive integer. If no element of G moves any subset of Ω by more than m points (that is, if $|\Gamma^g \setminus \Gamma| \leq m$ for every $\Gamma \subseteq \Omega$ and $g \in (G)$, and the lengths of all orbits are not equal to 2. Then the number t of G -orbits in Ω is at most $\frac{2}{3}(3m-1)$.

Moreover, we classify all groups for $t = \frac{2}{3}(3m-1)$ is hold.

Keywords and phrases: permutation group, bounded movement, orbits.

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