On $s$-semipermutable or $s$-quasinormally embedded subgroups of finite groups

Qingjun Kong and Xiuyun Guo

Abstract. Suppose that $G$ is a finite group and $H$ is a subgroup of $G$. $H$ is said to be $s$-semipermutable in $G$ if $HG_p = G_pH$ for any Sylow $p$-subgroup $G_p$ of $G$ with $(p, |H|) = 1$; $H$ is said to be $s$-quasinormally embedded in $G$ if for each prime $p$ dividing the order of $H$, a Sylow $p$-subgroup of $H$ is also a Sylow $p$-subgroup of some $s$-quasinormal subgroup of $G$. We fix in every non-cyclic Sylow subgroup $P$ of $G$ some subgroup $D$ satisfying $1 < |D| < |P|$ and study the structure of $G$ under the assumption that every subgroup $H$ of $P$ with $|H| = |D|$ is either $s$-semipermutable or $s$-quasinormally embedded in $G$. Some recent results are generalized and unified.