Wu, Zh.; Mao, Y.; Guo, W.,
On weakly $S\Phi$-supplemented subgroups of finite groups. (English. Russian original)
Zbl 1393.20007

Summary: Let $G$ be a finite group. We say that a subgroup $H$ of $G$ is \emph{weakly $S\Phi$-supplemented} in $G$ if $G$ has a subgroup $T$ such that $G = HT$ and $H \cap T \leq \Phi(H)_{HG}$, where $H_{HG}$ is the subgroup of $H$ generated by all those subgroups of $H$ that are s-permutable in $G$. In this paper, we investigate the influence of weakly $S\Phi$-supplemented subgroups on the structure of finite groups. Some new characterizations of $p$-nilpotency and supersolubility of finite groups are obtained.

MSC:
20D40 Products of subgroups of abstract finite groups
20D25 Special subgroups (Frattini, Fitting, etc.)
20D20 Sylow subgroups, Sylow properties, $\pi$-groups, $\pi$-structure
20D10 Finite solvable groups, theory of formations, Schunck classes, Fitting classes, $\pi$-length, ranks
20D15 Finite nilpotent groups, $p$-groups

Keywords:
Sylow $p$-subgroup; weakly $S\Phi$-supplemented subgroup; $p$-nilpotent group; supersoluble group

Full Text: DOI

References: