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On finite groups with generalized $\sigma$-subnormal Schmidt subgroups. (English) Zbl 1392.20010

Summary: Let $G$ be a finite group and $\sigma = \{\sigma_i \mid i \in I\}$ some partition of the set of all primes. A subgroup $A$ of $G$ is said to be generalized $\sigma$-subnormal in $G$ if $A = \langle L, T \rangle$, where $L$ is a modular subgroup and $T$ is a $\sigma$-subnormal subgroup of $G$. In this paper, we prove that if every Schmidt subgroup of $G$ is generalized $\sigma$-subnormal in $G$, then the commutator subgroup $G'$ of $G$ is $\sigma$-nilpotent.

MSC:
20D35 Subnormal subgroups of abstract finite groups
20D10 Finite solvable groups, theory of formations, Schunck classes, Fitting classes, $\pi$-length, ranks
20D15 Finite nilpotent groups, $p$-groups

Keywords:
$\sigma$-nilpotent group; finite group; generalized $\sigma$-subnormal subgroup; modular subgroup; Schmidt subgroup

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References:

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