

Title: Influence of weakly $\mathcal{H}$ -embedded subgroups on the structure of finite groups

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Let G be a finite group, and H a subgroup of G . We say that H is an $\mathcal{H}$ -subgroup in G if $N_G(H) \cap H^g \leq H$ for any $g \in G$. We say that H is weakly $\mathcal{H}$ -embedded in G if G has a normal subgroup K such that $H^G = HK$ and $H \cap K$ is an $\mathcal{H}$ -subgroup in G . For each prime p dividing the order of G , let P be a non-cyclic Sylow p -subgroup of G . We fix a p -power integer d with $1 < d < |P|$, and study the structure of G under the assumption that each subgroup of P of order d and pd is weakly $\mathcal{H}$ -embedded in G . Some new results about the p -nilpotency and supersolvability of G are obtained.

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