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The influence of s-c-permutably embedded subgroups on the structure of finite groups.

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Summary: A subgroup H of a group G is said to be s-c-permutably embedded in G if every Sylow subgroup of H is a Sylow subgroup of some s-conditionally permutable subgroup of G . In this paper, some new characterizations for a finite group to be p -supersoluble or p -nilpotent are obtained under the assumption that some of its maximal subgroups or 2-maximal subgroups of Sylow subgroups are s-c-permutably embedded. A series of known results are generalized.

MSC:

20D40 Products of subgroups of abstract finite groups

20D20 Sylow subgroups, Sylow properties, π -groups, π -structure

20D10 Finite solvable groups, theory of formations, Schunck classes, Fitting classes, π -length, ranks

20D15 Finite nilpotent groups, p -groups

Keywords:

finite groups; conditionally permutable subgroups; s-c-permutably embedded subgroups; maximal subgroups; Sylow subgroups; p -supersoluble groups; p -nilpotent groups; supersolubility; nilpotence

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