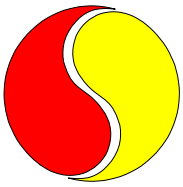

АНАЛИТИЧЕСКИЕ И ЧИСЛЕННЫЕ МЕТОДЫ ИССЛЕДОВАНИЯ В МАТЕМАТИКЕ

Алгебра и геометрия

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ON FINITE GROUPS WITH *X*-ABNORMAL SUPERSOLUBLE SUBGROUPS OF PAIRWISE RELATIVELY PRIME INDICES

В работе исследуются конечные группы заданной системы обобщенно-абнормальных сверх разрешимых подгрупп, имеющие попарно взаимно простые индексы.

We consider only finite groups. Recall that a subgroup H of a group G is abnormal in G, if x belongs to $\langle H, H^x \rangle$ for every element x of G.

Definition. A subgroup H of a group G we will call X-abnormal in G if for every normal subgroup N of G such that $HN \neq G$ follows HN is contained in a proper abnormal subgroup of G. Denoted H xabn G.

Clearly, any abnormal subgroup is X-abnormal. The converse is not true. The subgroup $H = \langle (12) \rangle$ of the symmetric group S_4 is X-abnormal, but not is abnormal in S_4

Theorem. Let G be a group, A, B, and C supersoluble X-abnormal subgroups of pairwise relatively prime indices in G. Then G is supersoluble.

Corollary 1 [1]. Let G be a group, A, B, and C supersoluble abnormal subgroups of pairwise relatively prime indices in G. Then G is supersoluble.

A subgroup H of a group G is called subabnormal in G if there exists an ascending chain:

$$H = H_0 \leq H_1 \leq \ldots \leq H_n = G$$

such that each H_{i-1} is an abnormal subgroup of H_i for every $i \in 1,\ldots, n$.

Corollary 2. Let G be a group, A, B, and C supersoluble subabnormal subgroups of pairwise relatively prime indices in G. Then G is supersoluble.

A subgroup H of a group G is called contranormal in G if the normal closure H^G is equal to G.

Corollary 3 [1]. Let G be a group, A, B, and C supersoluble contranormal subgroups of pairwise relatively prime indices in G. Then G is supersoluble.

References

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