Tsang, Cindy

The multiple holomorph of a semidirect product of groups having coprime exponents.
(English) [Zbl 07207322]

Arch. Math. 115, No. 1, 13-21 (2020)

For a group $G$, consider its holomorph $\text{Hol}(G) = G \rtimes \text{Aut}(G)$ as a subgroup of the group $S_G$ of permutations on $G$. The multiple holomorph then is the normalizer $N_{S_G}(<\text{Hol}(G)>)$ of the holomorph. Denote the quotient $T(G) = N_{\text{Hol}}(G)/\text{Hol}(G)$.

In many cases $T(G)$ is 2-elementary abelian, though recent work by A. Caranti [J. Algebra 516, 352–372 (2018; Zbl 1425.20003)] shows that this is not always the case. The paper describes a new method for certain groups (semidirect products of a group of exponent coprime to $d$ with a cyclic group of order $d$) that can be used to find elements of odd order in $T(G)$. Its use leads to explicit examples of solvable groups $G$ with odd-order elements in $T(G)$.

Reviewer: Alexander Hulpke (Fort Collins)

MSC:

20B35 Subgroups of symmetric groups

Keywords:
multiple holomorph; semidirect

Full Text: DOI

References:


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.