On finite groups of prime exponent and associated power graphs

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Abstract

The power graph of a group G is a simple and undirected graph whose vertex set is G and two distinct vertices are adjacent if one is a power of the other. This graph was first studied by Chakrabarty et al. [1]. However, it was Kelarev and Quinn, who introduced the notion of (directed) power graph of a group in [2, 3]. In the study of graphs constructed from groups, a useful topic is the extent to which structure of a group is reflected by the corresponding graph. By studying in this direction for power graphs, in this talk, we characterize (non-cyclic) finite groups of prime exponent and finite elementary abelian 2-groups (of rank at least 2) in terms of their power graphs.

References

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