

Exponent semigroups of finite p -groups

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ABSTRACT

We describe the set of all power endomorphisms of a given finite p -group in terms of the exponent of the central quotient of the group, and a certain nonnegative integer called the exponential rank of the group. We determine the exponential rank of powerful p -groups, p -groups of maximal class, and p -groups of small class. Connections with Schur multipliers and other homological functors will be discussed.

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