A note on the kernels of nonlinear irreducible characters

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Abstract. Let G be a finite nonabelian group, and $\mathrm{Kern}(G)$ be the set of kernels of nonlinear irreducible complex characters of G. A nonabelian p-group such that all the elements of $\mathrm{Kern}(G)$ have the same order is called a $\mathbb{P}$-group. We give a necessary and sufficient condition for a prime power order group to be a $\mathbb{P}$-group.

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