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1003-20-319

Pavel Shumyatsky, Antonio Tamarozzi and Lawrence E. Wilson*

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Gainesville, FL 32611-8105. *Groups with fixed point free automorphisms of prime order.*

Thompson proved that a finite group with a fixed point free automorphism of prime power order must be nilpotent. In 1957, G. Higman proved that the nilpotency class is bounded by a function depending on the order of the automorphism alone. In 1963, Kreknin and Kostrikin gave the first explicit bound and this bound was improved by Meixner in 1980. We give the next improvement in the bound. (Received September 09, 2004)