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**Zbl 335.20011**
**Erdős, Paul; Straus, E.G.**
*How abelian is a finite group?.* (In English)
**Linear multilinear Algebra 3, 307-312 (1976). [0308-1087]**

It is shown that a finite group of order $n$ contains an Abelian $p$- group whose order exceeds $(1-\epsilon)\log n$ for any $\epsilon > 0$ and all sufficiently large $n$. Let $A_k(n)$ be the minimal number of $k$-tuples of elements which are pairwise commuting in a group of order $n$. Some estimates are given for the growth rate of $A_k(n)$ with $n$. In particular it is shown that $A_{k+1}(n)/A_k(n) \to \infty$ as $n \to \infty$ for any fixed $k$. These estimates are closely connected with estimates for the minimal number of conjugacy classes in a group of order $n$. — Some related problems are discussed.

Classification:
20D99 Abstract finite groups
20D20 Sylow subgroups of finite groups
20K99 Abelian groups