Title: On $p$-hypercyclically embedded subgroups of finite groups

Author(s): Yuemei Mao, Xiaoyu Chen and Wenbin Guo

Let $G$ be a finite group and $p$ a prime. A normal subgroup $E$ of $G$ is said to be $p$-hypercyclically embedded in $G$ if every $p$-chief factor of $G$ below $E$ is cyclic. We say that a subgroup $H$ of $G$ is generalized $S\Phi$-supplemented in $G$ if $G$ has a subnormal subgroup $T$ such that $G = HT$ and $(H \cap T)H_{sG}/H_{sG} \leq \Phi(H/H_{sG})$, where $H_{sG}$ is the subgroup of $H$ generated by all those subgroups of $H$ which are $s$-permutable in $G$. In this paper, some new characterizations of $p$-hypercyclically embeddability of normal subgroups of a finite group are obtained based on the assumption that some primary subgroups are generalized $S\Phi$-supplemented in $G$.

Address:
Yuemei Mao
School of Mathematical Sciences
University of Science and Technology of China
Hefei 230026
P. R. China
and
School of Mathematics and Computer Science
University of Datong of Shanxi
Datong 037009
P. R. China

Address:
Xiaoyu Chen
School of Mathematical Sciences and Institute of Mathematics
Nanjing Normal University
Nanjing 210023
P. R. China

Address:
Wenbin Guo
School of Mathematical Sciences
University of Science and Technology of China
Hefei 230026
P. R. China