

1035-20-761

Jiping Zhang* (jzhang@pku.edu.cn), The School of Mathematical Sciences, Peking University, Beijing, 100871, Peoples Rep of China. *Recent Progress in Block Theory of Finite Groups*.

R. Brauer developed the modular representation theory of finite groups G . Eventually, the study of modular representation theory has focused more or less on p -block theory for fixed prime p dividing the order of G . In fact Brauer's prime goal is to characterize the group structure in terms of p -blocks for all prime divisor p of the order of G . In this direction of research, there are quite a few surprising new results proved including a new p -nilpotency criterion which can be viewed as a block version of the well-known criterion by Thompson. In this talk, we survey the progress and pose some open problems. (Received September 14, 2007)