

1084-20-339

Thomas Michael Keller* (tk04@txstate.edu), Department of Mathematics, Texas State University, 601 University Drive, San Marcos, TX 78666, and **Yong Yang** (yangy@uwp.edu), Department of Mathematics, University of Wisconsin-Parkside, 900 Wood Road, Kenosha, WI 53141. *Bounds for abelian quotients of linear groups.*

In 1989 Aschbacher and Guralnick proved that if G is a finite group and V is a finite faithful G -module over a field of characteristic p such that $O_p(G) = 1$, then $|G/G'| < |V|$. We present a stronger bound under stronger hypotheses as follows. Let G be a finite solvable group and V a finite faithful completely reducible G -module, possibly of mixed characteristic. Let M be the largest orbit size in the action of G on V . Then $|G/G'| \leq M$. We conjecture that this result is also true under the weaker hypotheses of the Aschbacher-Guralnick result. (Received September 04, 2012)