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Thomas Michael Keller* (tk04@txstate.edu), 601 University Drive, San Marcos, TX 78666,
and **Yong Yang** (yy10@txstate.edu), 601 University Drive, San Marcos, TX 78666. *Bounding
nilpotent and solvable quotients of primitive permutation groups.*

We present some generalizations and extensions of Aschbacher's and Guralnick's 1989 paper on abelian quotients of finite groups. For linear groups we strengthen their bound on $|G/G'|$ in many situations. We also established upper bounds for the sizes of the nilpotent and solvable quotients of primitive permutation groups on a set of size n , which are in the same spirit as the Aschbacher-Guralnick bound for the abelian quotient of such groups. For example, any nilpotent quotient of such a group has order at most n^β , where $\beta = \log 32 / \log 9$. (Received September 02, 2014)