## Non-metacyclic groups acting with nilpotent centralizers

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**Abstract.** Let A be a non-metacyclic finite group. Suppose that A acts coprimely on a finite group G in such a manner that  $C_G(a)$  is nilpotent for any  $a \in A^{\#}$ . In this talk, we investigate some conditions on A which imply that G is nilpotent with "bounded" nilpotency class. In particular, we generalize known results on action of q-groups and Frobenius groups.