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**Valerie Peterson, Jacob Russell and Aaron Wootton\***, 5000 North Willamette Blvd,  
Portland, OR 97203. *Maximal Group Actions on Compact Oriented Surfaces*. Preliminary report.

We consider the problem of when a cyclic group of orientation preserving automorphisms  $C_p$  of prime order  $p$  on a compact oriented surface  $S$  of genus  $\sigma \geq 2$  is finitely maximal, meaning there is no non-trivial finite supergroup  $G > C_p$  of orientation preserving automorphisms of  $S$ . We show that such a supergroup always exists unless the number of fixed points of the action is maximal (or equivalently, the quotient genus  $S/C_p$  is minimal). Moreover, we exhibit an infinite sequence of genera within which  $C_p$  is never finitely maximal. (Received September 16, 2015)