

1125-14-159

**Irene Bouw, Wei Ho, Beth Malmskog, Renate Scheidler, Padmavathi Srinivasan and
Christelle Vincent***, christelle.vincent@uvm.edu. *Curves with many automorphisms.*

For p an odd prime, we study a certain class of Artin-Schreier curves. The automorphism group of these curves contains a large extra special group as a subgroup. Precise knowledge of this subgroup makes it possible to compute the zeta function of the curves after extending the base field to contain the field of definition of the automorphisms. We find that over fields of square cardinality, these curves are either maximal or minimal, and we classify which curves fall into which category. (Received August 05, 2016)