

1077-11-2028

**Robert M. Guralnick** and **Beth Malmskog\*** (emalmskog@wesleyan.edu), Department of Mathematics, Wesleyan University, Middletown, CT 06457, and **Rachel Pries**. *Automorphism groups of a family of maximal curves.*

The Hasse Weil bound restricts the number of points of a curve which are defined over a finite field; if the number of points meets this bound, the curve is called maximal. Giulietti and Korchmaros introduced a curve  $\mathcal{C}_3$  which is maximal over  $\mathbb{F}_{q^6}$  and determined its automorphism group. Garcia, Guneri, and Stichtenoth generalized this construction to a family of curves  $\mathcal{C}_n$ , indexed by an odd integer  $n \geq 3$ , such that  $\mathcal{C}_n$  is maximal over  $\mathbb{F}_{q^{2n}}$ . In joint work with Rachel Pries and Robert Guralnick, the speaker determined the automorphism group  $\text{Aut}(\mathcal{C}_n)$  when  $n > 3$ ; in contrast with the case  $n = 3$ , it fixes the point at infinity on  $\mathcal{C}_n$ . This talk will discuss the result and the outline of our proof. (Received September 21, 2011)