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**Talmage J Reid\*** (mmreid@gmail.com), Department of Mathematics, The University of Mississippi, University, MS 38677, and **Xiangqian Zhou**, Department of Mathematics, Marshall University, Huntington, WV 25755. *On Clone Sets of  $GF(q)$ -Representable Matroids.*

Two elements of a matroid are *clones* if the map that interchanges the two elements and fixes all other elements is an automorphism of the matroid. Clones are important in the study of the representation of matroids by matrices over finite fields. We show that a non-uniform matroid that is 3-connected and  $GF(q)$ -representable can only contain a clone set with size bounded by a linear function in the size of the field. We also develop the connection between the problem of finding a clone set of a given size in a representable matroid and the representability of a class of near uniform matroids. This connection is of independent interest outside of the applications given here. (Received January 29, 2008)