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**W. Cary Huffman\*** ([whuffma@luc.edu](mailto:whuffma@luc.edu)), Department of Mathematics and Statistics, 1032 W. Sheridan Rd., Chicago, IL 60660.  *$\mathbb{F}_q$ -Linear  $\mathbb{F}_{q^t}$ -Codes with Prime Order Automorphisms*. Preliminary report.

Additive codes over  $\mathbb{F}_4$  that are self-orthogonal under a certain trace inner product lead to quantum error correcting codes. The family of  $\mathbb{F}_q$ -linear  $\mathbb{F}_{q^t}$ -codes provides a natural generalization of additive codes. Two different trace inner products on these codes are considered. The structure of a self-dual code under either of these inner products is determined when the code has an automorphism of prime order. This structure can be used to address certain classification questions. (Received December 08, 2011)