

1057-94-381

Ricardo Alfaro* (ralfaro@umflint.edu), Mathematics Department, University of Michigan-Flint, Flint, MI 48502. *On Distances and Self-Dual Codes over $\mathbb{F}_q[u]/(u^t)$.*

General metrics for linear codes over the ring $\mathbb{F}_q[u]/(u^t)$ are defined, generalize some Gray maps, Lee weight, and Bachoc weight; and new bounds on distances are given. Two characterizations of self-dual codes over $\mathbb{F}_q[u]/(u^t)$ are determined in terms of linear codes over \mathbb{F}_q . An algorithm to produce such self-dual codes is also established. (Received January 26, 2010)