

1092-51-122

Junhua Wu* (jwu@lanecollege.edu), Lane College, Jackson, TN 38301. *On an LDPC Code Related to a Buekenhout-Metz Unital in $PG(2, q^2)$.*

Low Density Parity Check (LDPC) codes are one of the hottest topics in coding theory today. Originally invented in the early 1960's, they have experienced an amazing comeback in the last few years. In this talk, we study an LDPC code arising from the \mathbb{F}_2 -null space of the incidence matrix of the points in a special Buekenhout-Metz unital versus its secant lines in the finite projective plane of order q^2 . In particular, we provide a proof for the conjecture on the dimension of this code. This work is supported in part by NSF HBCU-UP Grant Award 0929257 at Lane College. (Received August 05, 2013)