

1030-05-63

Anton Betten* (betten@math.colostate.edu), Colorado State University, Department of Mathematics, Fort Collins, CO 80523. *Twisted Tensor Product Codes.*

Two families of constacyclic codes with large automorphism groups will be presented. One is obtained by tensor twisting the regular oval in the plane with respect to a quadratic subfield. The other is obtained by tensor twisting the projective line with respect to a cubic subfield. Properties of the codes will be discussed and relations to other, previously known codes are examined. Coincidentally, the smallest nontrivial member of the first family is the quaternary self-orthogonal code S18 discussed by MacWilliams, Odlyzko, Sloane, and Ward in 1978. (Received July 13, 2007)