

Abstract

Codes over non unitary rings

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There are exactly 11 rings of order 4, four of which are unital by Rhagavandran (1969). Among the remaining seven we select three as alphabets for our codes: E, I, H. We study quasi self-dual codes and Type IV codes over these rings, two special kinds of self-orthogonal codes. E is non-commutative and local, and leads to invariant theory of weight enumerators. I is commutative local and leads to a mass formula. H is commutative semi-local and allows classification under permutation equivalence. The build up construction is studied over E, I, and H. Joint works with *Adel Alahmadi, Amani Alkhatiry, Alaa Altassan, Widyan Bassafar, Alexis Bonnetaze, Hatoon Shoaib*.