Abstract

Constructions of Two-Weight Codes over Rings

Alison Sneyd

School of Mathematical Sciences,
University College Dublin, Ireland.

In [1] it was shown that linear projective, regular codes with two non-zero homogeneous weights over finite Frobenius rings yield strongly regular graphs. In [2], Honold extended this result to show that homogeneous two-weight modular codes also give rise to strongly regular graphs.

We present constructions yielding two families of two-weight codes. The first arises from unions of submodules of $R_n^k$ and the second arises from Frobenius rings whose weights satisfy a cardinality property.

References
