

# Counting Codes over Rings with a Given Hull

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## Abstract

We study the hull of both linear and additive codes over the commutative rings with unity of order 4, where the orthogonal is the Euclidean orthogonal for linear codes and for additive codes it is determined using characters. We give the number of additive codes with a given hull for the rings of characteristic 2 via the corresponding Gray map. We investigate linear codes over the rings of order 4 which have a hull of given type.

## Keywords

Hull, Additive codes, Linear codes, Gray maps, Binary codes.