

Characterization results on arbitrary (weighted) minihypers and on linear codes meeting the Griesmer bound

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Consider the projective plane $\text{PG}(2, q)$. A *blocking set* is a set B of points of $\text{PG}(2, q)$, different from a line, such that every line of $\text{PG}(2, q)$ contains at least one point of B . A blocking set is called *minimal* if no proper subset of B is a blocking set.

Different kinds of generalizations of blocking sets exist. One kind of generalization are the *multiple weighted blocking sets* in $\text{PG}(n, q)$, also introduced by Hamada and Tamari [1] as $\{f, m; N, q\}$ -minihypers.

We discuss the relation between linear codes and minihypers and we present old and new characterization results on minihypers, where we emphasize geometrical aspects, but give an interpretation of the final results in terms of linear codes meeting the Griesmer bound.

References

- [1] N. Hamada and F. Tamari. On a geometrical method of construction of maximal t -linearly independent sets. *J. Combin. Theory Ser. A*, 25(1):14–28, 1978.