

The code of points and k -spaces of $PG(n, q)$

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(Joint work with Michel Lavrauw and Leo Storme)

The p -ary code $C_k(n, q)$ of points and k -spaces of $PG(n, q)$ is the vectorspace generated over \mathbb{F}_p by the incidence matrix of points and k -spaces of $PG(n, q)$.

In this talk, I will discuss the relationship between codewords of weight $< 2q$ of the code of points and lines in $PG(2, q)$ and small minimal blocking sets in $PG(2, q)$. Using this relation, all codewords in the code of points and lines with weight in $]q + 2, 2q[$ are excluded. I will explain how this method can be generalised to obtain results on codewords of small weight in the code of points and k -spaces in $PG(n, q)$.