

# Geometrical aspects of subspace codes

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Subspace codes are codes in which the codewords consist of subspaces of a vector space  $V(n, q)$  of dimension  $n$  over the finite field of order  $q$ . These codes now receive a lot of attention because of their relevance for transmission of information in wireless networks.

Since codewords are subspaces of a vector space  $V(n, q)$ , they also can be interpreted as being subspaces of the projective space  $\text{PG}(n-1, q)$  of dimension  $n-1$  over the finite field of order  $q$ .

This implies that geometrical techniques can be used to construct subspace codes and to investigate properties of subspace codes.

In this talk, a number of geometrical results on subspace codes will be presented to show that the theory of subspace codes is a new interesting research domain for finite geometers.