

On a certain class of monomial evaluation codes

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In this talk we will present a class of evaluation codes defined on the points of a subset X of an affine space over a finite field, whose vanishing ideal admits a Gröbner basis of a certain type. We determine properties of the polynomials in this basis which allow the determination of the footprint of the vanishing ideal. From this we define a class of generalized monomial evaluation codes and find information on their duals, and the dimension of their hulls. This class encompasses, among others, well-known codes such as Reed-Solomon codes, Reed-Muller codes and affine cartesian codes