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The second largest number of points on plane curves over finite fields. (English)

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Finite Fields Appl. 49, 80-93 (2018).

Summary: A basis of the ideal of the complement of a linear subspace in a projective space over a finite field is given. As an application, the second largest number of points of plane curves of degree d over the finite field of q elements is also given for $d \geq q + 1$.

MSC:

11G20 Curves over finite and local fields
13F20 Polynomial rings and ideals; rings of integer-valued polynomials
14G15 Finite ground fields in algebraic geometry
14N05 Projective techniques in algebraic geometry

Keywords:

finite field; basis of the ideal; plane curve

Full Text: DOI

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