

NUMBER OF K -NORMAL ELEMENTS IN FINITE FIELDS

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ABSTRACT. A normal element in a finite field extension \mathbb{F}_{q^n} is characterized by having linearly independent conjugates over \mathbb{F}_q . In this talk, we consider the generalization of normal elements known as k -normal elements, where a subset of the conjugates are required to be linearly independent. We provide an explicit combinatorial formula for counting the number of k -normal elements in a finite field extension. Our result offers new insights into the distribution of k -normal elements. Additionally, we also deduce some results about \mathbb{F}_q -practical numbers.

Palavras-chave: k -normal elements, \mathbb{F}_q -practical numbers, irreducible factors.

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