

Skew Cyclic Codes over $Fq+uFq+\dots+uk-1Fq$

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Abstract : This paper studies a special class of linear codes, called skew cyclic codes, over the ring $R = F_q + uF_q + \dots + u^{k-1}F_q$, where q is a prime power. A Gray map ϕ from R to F_q and a Gray map ϕ' from $R^{(n)}$ to $F_q^{(n)}$ are defined, as well as an automorphism Θ over R . It is proved that the images of skew cyclic codes over R under map ϕ' and Θ are cyclic codes over F_q , and they still keep the dual relation.

Keywords : skew cyclic code, gray map, automorphism, cyclic code

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