

环 Z_4 上线性循环码的深度谱¹

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摘要 Etzion 定义并研究了域 F_q 上线性码的深度谱, 该文研究了环 Z_4 上线性码与线性循环码的深度谱, 证明了 $4^{k_1}2^{k_2}$ 型线性码的深度谱至少含有 $k_1 + k_2$ 个非零值, 并给出了一类 4^k 型线性循环码的深度谱为 $\{n, n-1, \dots, n-k+1\}$.

关键词 线性码, 线性循环码, 深度, 深度谱

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On the Depth Spectrums of Linear Cyclic Codes on Ring Z_4

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Abstract: Etzion defined and studied the depth spectrums of linear codes on field F_q . In this correspondence, the depth spectrums of linear codes and linear cyclic codes on ring Z_4 are studied, and it is proved that the depth spectrum of linear code of type $4^{k_1}2^{k_2}$ has at least $k_1 + k_2$ nonzero values, and the depth spectrum of linear cyclic code of type 4^k is $\{n, n-1, \dots, n-k+1\}$.

Key Words: Linear code, Linear cyclic code, Depth, Depth spectrum