Abstract

The Number of Quaternary Fuzzy Codes

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We introduce quaternary fuzzy codes. Recently, the number of finite abelian subgroups $\mathbb{Z}_p^k = \mathbb{Z}_p \times \mathbb{Z}_p \times \cdots \times \mathbb{Z}_p$ has been established. Further, some other special cases of finite abelian subgropus are also enumerated. Hence, these enumerations are related to the computation of number of fuzzy abelian finite groups of special cases. Here, we give a formula for the number of subgroups of type (k_1, k_2) of $\mathbb{Z}_4^n$ which is not covered in the literature to our best knowledge. Also, we relate this computation to enumeration both of the number of fuzzy groups and quaternary codes.