Cyclic and constacyclic Codes over $\mathbb{Z}_8 + v\mathbb{Z}_8$

Sri Rosdiana[1], Intan Muchtadi-Alamsyah[*2],
Djoko Suprijanto[2], Aleams Barra[2]

In this paper, we study structure of the cyclic codes and $1 + 4v$-constacyclic over the ring $R = \mathbb{Z}_8 + v\mathbb{Z}_8$. where $v^2 = v$. We use the Gray map from R to $\mathbb{Z}_8$ and show that Gray images of $1 + 4v$-constacyclic codes over R are cyclic and 2-quasi-cyclic over $\mathbb{Z}_8$.

[*] corresponding author: ntan@math.itb.ac.id

[1]Politeknik Siber dan Sandi Negara
Jl. Raya Haji Usa, Putat Nutug, Ciseeng,
Putat Nutug, Kec. Ciseeng, Bogor16120
Indonesia

[2]Institut Teknologi Bandung
Jalan Ganesha No. 10
Bandung 40132
Indonesia