Abstract

In this talk, we will talk about the σ-self-orthogonality of constacyclic codes of length p^s over the finite commutative chain ring $\mathbb F_{p^m} + u \mathbb F_{p^m}$, where $u^2=0$ and σ is a ring automorphism of $\mathbb F_{p^m} + u \mathbb F_{p^m}$. We obtain the structure of σ-dual code of a λ-constacyclic code of length p^s over $\mathbb F_{p^m} + u \mathbb F_{p^m}$. Then, by using the structure, we get the necessary and sufficient conditions for a λ-constacyclic code to be σ-self-orthogonal. In particular, we determine the σ-self-dual constacyclic codes of length p^s over $\mathbb F_{p^m} + u \mathbb F_{p^m}$. Finally, we extend the results to constacyclic codes of length $2 p^s$. This is joint work with Jingge Liu.