

1084-94-346

Hai Q Dinh* (hdinh@kent.edu), Department of Mathematical Sciences, Kent State University,
4314 Mahoning Avenue, Warren, OH 44483. *Skew cyclic codes and some generalizations.*

Using generator polynomials in non-commutative skew polynomial rings, the class of cyclic codes is generalized to the class of skew cyclic codes. Given an automorphism θ of a finite field \mathbb{F} , a skew θ -cyclic code C of length n is a linear code with the property that

$$(c_0, c_1, \dots, c_{n-1}) \in C \quad \Rightarrow \quad (\theta(c_{n-1}), \theta(c_0), \dots, \theta(c_{n-2})) \in C.$$

In this talk, we overview many properties that skew cyclic codes share with cyclic codes. Several generalizations of skew cyclic codes, such as skew constacyclic codes, are discussed. (Received September 04, 2012)