

The covering radii of a class of binary cyclic codes and some BCH codes

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In 2003, Moreno and Castro proved that the covering radius of a class of primitive cyclic codes over the finite field \mathbb{F}_2 having minimum distance 5 (resp. 7) is 3 (resp. 5). In this talk we give a generalization of this result as follows: the covering radius of a class of primitive cyclic codes over \mathbb{F}_2 with minimum distance greater than or equal to $r+2$ is r , where r is any odd integer. Moreover, we discuss the covering radii of the primitive binary e -error correcting BCH codes of length $2^f - 1$.

This is a joint work with Selçuk Kavut.