

NEW FAMILIES OF TWO-WEIGHT PROJECTIVE CYCLIC CODES CONSTRUCTED AS THE DIRECT SUM OF TWO ONE-WEIGHT IRREDUCIBLE CYCLIC CODES

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Abstract

Using the characterization theorem for two-weight projective cyclic codes that can be constructed as the direct sum of two one-weight cyclic codes of Gerardo Vega presented in [2], we give algorithms depending on the conditions (1) and (2) of this theorem, which allow to find new families of such codes. We effectively determine new families of two-weight projective cyclic codes which are direct sum of one-weight irreducible cyclic codes for finite fields of characteristic 2 and a generalization of the Theorem 8. of G. Vega and J. Wolfmann in [3].

Key Words : *Finite fields of characteristic 2, One-weight irreducible cyclic codes, Two-weight projective cyclic codes.*

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