

BCH-like codes from extended Norm-Trace codes

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Here we describe how to find the parameters of a class of BCH-like codes the subfield subcodes of extended Norm-Trace (NT) codes constructed from NT curve family . With a Gröbner basis of the ideal of the \mathbb{F}_{q^r} rational points of the Norm-Trace curve we determine the dimension of the subfield subcodes or the dimension of the trace code. We also find a BCH-like bound from the minimum distance of the original supercode. We consider BCH-like binary codes of large lengths for modern applications (e.g., for flash memories) and compare their performance with that of similar length and parameter binary BCH codes or other binary codes.

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