

Gröbner Basis methods in Projective Reed-Muller codes

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Abstract. Projective Reed-Muller codes were introduced by Lachaud in 1988 and their dimension and minimum distance were determined by Serre and Sørensen in 1991. In coding theory, one is also interested in the higher Hamming weights, to study the code performance. In this talk we present several values for the next-to-minimal weights of projective Reed-Muller codes using techniques from Gröbner basis theory. This is a joint work with Cícero Carvalho.