ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

2. Algebra

1991 MS Classification: 13A02

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The a-invariant of some Reed-Muller codes

By using some technics from commutative algebra, we compute the defining ideal, its a-invariant, the dimension and a generating matrix of the associated Reed-Muller codes which arise evaluating the homogeneous polynomials of degree d in finite subsets of the projective n-space over a finite field. In some cases the minimal distance of the code is given.