

MR2497353 (2010f:11175) 11T06

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Divisibility of trinomials by irreducible polynomials over \mathbb{F}_2 . (English summary)

Int. J. Algebra **3** (2009), no. 1-4, 189–197.

All polynomials in this paper are over the finite field $\text{GF}(2)$ of order 2. The authors first give a factorization of self-reciprocal trinomials of the form $x^{2m} + x^m + 1$, with m odd, in terms of cyclotomic polynomials. They then give the number of trinomials, which are divided by a given irreducible polynomial of order e and are of degree less than e . Finally, they give a necessary and sufficient condition for an irreducible polynomial of order e to divide a trinomial of the form $x^{am} + x^{bs} + 1$ with a, b fixed positive integers.

Reviewed by [Wun-Seng Chou](#)

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