

## The flatness of a class of ternary cyclotomic polynomials

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**Abstract.** Recently, there has been much progress in our understanding of the flatness of ternary cyclotomic polynomials, but a complete classification is not known. Let  $p < q < r$  be odd primes such that  $q \equiv \pm 1 \pmod{p}$  and  $zr \equiv \pm 1 \pmod{pq}$ . The cases  $1 \leq z \leq 6$  have been thoroughly investigated. In this paper, we concentrate on the case  $z = 7$ , giving a classification of the cases for which  $A(pqr) = 1$ . We also present some results about the coefficients of  $\Phi_{pqr}(x)$  for the general cases of  $z$ .

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