

MR1367846 (96k:11131) [11R29](#) ([11R27](#) [11R33](#))

Bayad, A. (D-AGSB-MI); **Bley, W.** (D-AGSB-MI); **Cassou-Noguès, Ph.** (F-BORD-MI)

Sommes arithmétiques et éléments de Stickelberger. (French) [Arithmetical sums and Stickelberger elements]

J. Algebra **179** (1996), *no. 1*, 145–190.

The annihilation of class groups of cyclotomic fields by Stickelberger ideals and, in connection with this, the factorization of Gauss sums are classical results of number theory. They have been transferred to elliptic cases (i.e. in which coordinates of torsion points of an elliptic curve are adjoined to a number field) by P. Cassou-Noguès and M. J. Taylor [*J. Number Theory* **37** (1991), no. 3, 307–342; [MR1096447 \(92e:11125\)](#)]. It was assumed there that the curve has no complex multiplication. The paper under review drops this assumption and thereby generalizes and extends the previous results. For a more detailed exposition, see the review of the above-mentioned paper by Cassou-Noguès and Taylor.

Reviewed by *Ernst Kleinert*

© Copyright American Mathematical Society 1996, 2007