ANNALES DE L'INSTITUT FOURIER

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Annales de l'institut Fourier, tome 48, n° 2 (1998), p. 609-610

<http://www.numdam.org/item?id=AIF_1998__48_2_609_0>

Ann. Inst. Fourier, Grenoble
48, 2 (1998), 609-610

CORRIGENDUM

GALOIS MODULE STRUCTURE OF IDEALS IN WILDLY RAMIFIED CYCLIC EXTENSIONS OF DEGREE p^2

by Gove Griffith ELDER

(Article paru dans le tome 45 (1995), fascicule 3, pp. 625–647)

The author would like to thank Nigel Byott for pointing out the errors in Theorem 1. Base upon the following lemmas the exponents d_r, b and h_i should read:

• Based upon Lemma 8, $d_r = \lceil (n + (r+1)pb_1)/p^2 \rceil - \max\{\lceil n/p^2 \rceil, \lambda_{2,0} - e_0\}$.

• Based upon Lemma 7, $b = \sum_{j=0, s_j > p-1}^{r-1} (\lceil (n-(p-j-1)pb_1)/p^2 \rceil - \lceil (n-(p-j)pb_1)/p^2 \rceil) + \sum_{j=0, p-1 \geq s_j > p-2}^{r-1} (\min\{\lceil (\lambda_{2,1}(n) - (s_j - j)b_1)/p \rceil - e_0, \lceil (n-(p-j-1)pb_1)/p^2 \rceil\} - \lceil (n-(p-j)pb_1)/p^2 \rceil) + \sum_{j=r, s_j \geq p-1}^{r} \max\{0, \lambda_{2,0}(n) - e_0 - \lceil (n + rpb_1)/p^2 \rceil\}$.

• Based upon Lemma 7, $h_i = \sum_{j=0, s_j - 1 = i}^{r-1} \max\{0, \lceil (n-(p-j-1)pb_1)/p^2 \rceil - \lceil (\lambda_{2,1}(n) - (s_j - j)b_1)/p \rceil + e_0\} + \sum_{j=0, s_j = i}^{r-1} (\min\{\lceil (\lambda_{2,1}(n) - (s_j - j)b_1)/p \rceil - e_0, \lceil (n-(p-j-1)pb_1)/p^2 \rceil\} - \lceil (n-(p-j)pb_1)/p^2 \rceil) + \sum_{j=r, s_j = i}^{r} \max\{0, \lambda_{2,0}(n) - e_0 - \lceil (n + rpb_1)/p^2 \rceil\}$.

A cursory glance at the statement of Theorem 1 might suggest the appearance of many different types of $(R_2, R_1; \lambda^i)$ in a given ideal. This is

misleading. Usually only one or two h_i is nonzero. In fact, generally the only nonzero h_i are h_r and h_{r+1}.

Finally, we note one may use Nakayama's lemma instead of our methods, see 640-644, to prove Step 3, for example [G.G. Elder and M.J. Madan, Galois module structure of integers in wildly ramified $C_p \times C_p$-extensions, Can. J. Math., 49, n°4 (1997), 722-735].

January 1, 1998.

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