CORRIGENDA: "FINITENESS THEOREMS FOR POSITIVE DEFINITE n-REGULAR QUADRATIC FORMS", TRANS. AMER. MATH. SOC. **355** (2003), 2385-2396.

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Abstract. This note contains a possibly incomplete list of typos found in the paper. We also include some comments to clarify a few arguments used in the proofs of the main results there.

(1) Lemma 2.3(2): When $\frac{dM}{4} \equiv 5 \bmod 8$, $\lambda_4(L)_2 \cong M_2^3 \perp N_2^{\frac{1}{2}}$.

(2) Lemma 3.1: Let q be a prime such that $q \nmid 2k\delta$.

(3) Lemma 3.3: The sublattice M can be any sublattice of rank $k < n$. In the proof, there exists $y \in L$ such that $Q(y) \leq \mu_{k+1}(L)$ and $y \notin \mathbb{Q}M$. Then $\delta y \in M \perp M^{\perp}$. Write $\delta y = x + z$ where $x \in M$ and $z \in M^{\perp} \setminus \{0\}$. Therefore, $\delta^2 \mu_{k+1}(L) \geq \delta^2 Q(y) \geq Q(z) \geq a$.

(4) Page 2390, at the end of first line: $\mu_{k+1}(L) \leq C\mu_k(\ell)$, where C is a constant depending only on k."

(5) Page 2390, near the end of the first paragraph of the proof of Lemma 3.4: "$\mu_k(\tilde{K}) \leq \tilde{C}\mu_{k-1}(\tilde{K}) \leq ...$, where $\tilde{C}$, C_1, C_2, C_3, and hence A, depend only on ℓ, L, and M."

(6) In the proof of Lemma 3.5: (1) $q_i \in (\mathbb{Z}_p^{\times})^2$ for all $p \mid (dK)(dM)$ and $q_i \equiv 1 \pmod 8$.

(7) Section 4: The lattice L should be an n-regular lattice of rank $n+3$ where $n \geq 3$ instead of $n \geq 2$ as claimed at the beginning of that section. This is because we cannot apply Lemma 3.4 to bound $\mu_5(L)$ in the proof of Lemma 4.1 when $n = 2$. However, this does not affect any subsequent arguments.

(8) In the proof of Proposition 4.2, second paragraph: "we must have $3p^2 \leq dM$."

(9) In the proof of Proposition 4.2, third paragraph: "If rank$(G) = k \geq 4$, then $p^{2(k-2)} \leq dG \leq 8(2p-2)^{k-2}$ and thus p is bounded."

(10) The end of the third paragraph of the proof of Lemma 4.2: "These four binaries do not represent $6, 4, 10$ and 6 respectively. Therefore, $p \leq 5$."

(11) Page 2392, 2nd paragraph: One can use [1, Corollary 3.2] to bound the first three minima of L. Moreover, M is not necessary a 4×4 section of L. It can be any quaternary sublattice of L whose discriminant is bounded.

(12) Page 2392, proof of Theorem 1.1 ($n = 2$), three lines after (2): N'_q is represented by L_q, not L_p as written.

(13) Page 2392, proof of Theorem 1.1 ($n = 2$), at the end of third paragraph: "$\mathbb{Q}_q N'_q \not\longrightarrow \mathbb{Q}_q M_q$."

(14) Page 2392, proof of Theorem 1.1 ($n = 2$), fourth paragraph: "$\mu_5(L) \leq \max\{q^\alpha \mu_2(N), \mu_4(M)\}$."

(15) Page 2393: Equality (1) when $q = 2$ means that s and $-u'v'$ are in the same square class in $\mathbb{Z}_2^\times$. Same comment applies to equality (2).

(16) Page 2393, near the end of the second paragraph: "$\mathbb{Q}_q N_q \not\longrightarrow \mathbb{Q}_q M_q$."

(17) Page 2393, at the end of the third paragraph: It is clear that $\lambda_{2q}(L) = \Lambda_{2q}(L)^r$, where $r = \frac{1}{q}$ or $\frac{1}{q^2}$. Note that whenever $\mathfrak{s}(L) = 2\mathbb{Z}$ or $Q(L_q) \neq 2\mathbb{Z}_q$, $\Lambda_{2q}(L)$ is just $\{x \in L : Q(x) \in 2q\mathbb{Z}_q\}$ and hence $\Lambda_{2q}(M)$ is a sublattice of $\Lambda_{2q}(L)$. We replace L by $\lambda_{2q}(L)$ and M by $\Lambda_{2q}(M)^r$ (which is not necessarily equal to $\lambda_{2q}(M)$). Repeat this process until L_q is split by $\mathbb{H}$.

(18) Page 2393, at the end of the fourth paragraph: Alternatively, one could argue that by assumption M_p must be represented by $\mathbb{A} \perp \mathbb{A}^p$ and hence $\langle a \rangle$ must be represented by $\langle p^k \epsilon \rangle$. Therefore, $\mathrm{ord}_p(a) \geq k$ and we may simply take η to be the smallest even integer greater than or equal to $\mathrm{ord}_p(a)$.

(19) Page 2393, last paragraph: "Let $r \nmid 2dL$ be a prime ..."

(20) Page 2394, first displayed inequality: "$p^{\mathrm{ord}_p(a)} \leq (dM)^2 \max\{2t, 2W, \mu_4(M)\}$."

(21) Page 2394, after the first displayed inequality: "If $2W \leq \max\{2t, \mu_4(M)\}$,"

(22) Page 2394, second displayed inequality: "$p^{\mathrm{ord}_p(a)} \leq \frac{2t^2(dM)^2}{t - 2p^{\eta - \mathrm{ord}_p(a)} r (dM)^2}$."

(23) Page 2394/2395, in the proof of Theorem 1.2 and Theorem 1.3: It suffices to take M to be a ternary sublattice of L whose discriminant is bounded.

References

[1] W.K. Chan, A.G. Earnest, and B.-K. Oh, *Regularity properties of positive definite integral quadratic forms*, Algebraic and arithmetic theory of quadratic forms, 59-71, Contemp. Math., **344**, Amer. Math. Soc., Providence, RI, 2004.

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