

Corrigendum to “A note on some Diophantine inequalities over adelic curves”

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Abstract

An inequality on the parameter A in the statements of [1, Theorem 1.2 and Proposition 3.9] is reversed. This short note corrects this mistake and lists a few minor typos. The cardinality bound in Theorem 1.2 and the proofs of all results are otherwise unchanged.

The inequality on the parameter A in the statements of Theorem 1.2 and Proposition 3.9 is reversed. The correct version reads

$$A \geq 4^{2N!} \prod_{i=1}^n H(\alpha_i)^{2N!/n}$$

in both places. Under this corrected hypothesis on A :

- (a) The height threshold in Theorem 1.2 simplifies to $h(\beta) \geq \log A$.
- (b) The hypothesis (4) on the height of β_1 in Proposition 3.1 can be dropped. Indeed, the proof of Proposition 3.1 derives

$$\frac{h(\beta_2)}{h(\beta_1)} \geq 1 + \varepsilon + \frac{(2 + \varepsilon) \log A - h(2) - \log 2}{h(\beta_1)},$$

and the corrected hypothesis implies $\log A \geq 2N! \log 4 \geq 4 \log 2$, which (combined with the normalization $h(2) \leq \log 2$) makes the fractional term non-negative. Hence Proposition 3.1 holds, under the corrected hypothesis on A , for any two distinct solutions of (1) with $h(\beta_2) \geq h(\beta_1)$.

- (c) The sentence beginning “*moreover when* $A \leq 1 \dots$ ” in the paragraph following Theorem 1.2 should be removed.
- (d) Remark 3.2 should be removed.

Below some typos in [1] that need to be fixed:

1. In Definition 2.6, the integration range S should read Ω .
2. In equation (10) the term $\sum_{i=1}^n \frac{N!}{n} h(\alpha_i)$ in the denominator of the leftmost fraction should read $\sum_{i=1}^n \frac{N!}{2n} h(\alpha_i)$, in agreement with Definition 3.5.
3. In Definition 3.3, the logarithmic length of an interval $[a, b]$ with $1 < a < b$ should read $\frac{\log b}{\log a}$ rather than $\log \frac{b}{a}$.
4. In the proof of Proposition 3.1, the integration ranges Ω_∞ , Ω_0 and Ω should be replaced by $S \cap \Omega_\infty$, $S \cap \Omega_0$ and S respectively, and Proposition 2.7 should be applied with $U = S$. The conclusion is unchanged.

References

- [1] P. Dolce, *A note on some Diophantine inequalities over adelic curves*, J. Théor. Nombres Bordeaux **37** (2025), no. 1, 143–152.