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SOME QUANTITATIVE RESULTS RELATED TO ROTH'S THEOREM: CORRIGENDA

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Theorem 1 of the paper [1] is stated in an unnecessarily weak form. What is actually proved is much stronger.

THEOREM 1. *Let $\alpha_1, \dots, \alpha_n$ be elements of a number field K of degree r over the field k with each α_i of exact degree r over k. Suppose $n \geq c_0 \log r$ (where c_0 is a sufficiently large constant) and set $\eta\colon 0 < \eta \leq 1/2n!$. Let $\beta_i \in k$ be approximations to α_i, $i = 1, \dots, n$, such that we have the gap condition*

$$\frac{1}{\eta}\log(4h(\alpha_{i+1})) + \log(4h(\beta_{i+1})) \geq \frac{4rn}{\eta}\left(\frac{1}{\eta}\log(4h(\alpha_i)) + \log(4h(\beta_i))\right).$$

Then

$$|\alpha_i - \beta_i|_v \geq \left((4h(\alpha_i))^{1/\eta}\, 4h(\beta_i)\right)^{-2-3\sqrt{\log r}/\sqrt{n}}$$

for at least one i, $1 \leq i \leq n$.

The following misprints should be corrected:

page 236, line 3

for: $\tau = 1$ read: $\tau = n$

page 237, definition of $T(t)$

for: $t \leq x_1 \leq 1$ read: t; $0 \leq x_i \leq 1$

page 238, middle

for: $U(zv(z))$ read: $U(v(z))$

page 238, Lemma 5

for: sin read: $\sim$

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page 239, proof of Lemma 6

for: $> n/2 - nz$ read: $> n/2 + nz$.

References

[1] E. Bombieri and A. J. van der Poorten, 'Some quantitative results related to Roth's Theorem', *J. Austral. Math. Soc.* (*Ser. A*) **45** (1988), 233–248.

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