ERRATA FOR “RANK BIAS FOR ELLIPTIC CURVES MOD p” BY KIMBALL MARTIN AND THOMAS PHARIS

KIMBALL MARTIN

Here we correct a sign error when $k \equiv 0 \mod 4$ in Section 2 of the published article [MP22]. This has no effect on the rest of the paper.

Errata:

1. p. 710, bottom (Section 1A): the phrase “however the signs for $k \equiv 0 \mod 4$ are opposite to those for $k \equiv 2 \mod 4$” should be removed.
2. p. 717: The conclusion of Proposition 2.2 should read

$$\left| \text{tr}_{S_k^{\text{new}}(N)} T_n + \frac{1}{4} n^{\frac{k-2}{4}} H(4nN) \right| < \left( 2^{\omega(N)}(4n)^{\frac{k}{2}} + \delta_{k,2} \right) \sigma_1(n).$$

3. p. 717, proof of Proposition 2.2: $p_k(0, n) = (-n)^{(k-2)/2}$, not $n^{(k-2)/2}$, so (2-2) should read

$$(0.1) \quad \text{tr}_{S_k(N)} T_n W_N = -\frac{1}{2} (-n)^{\frac{k-2}{4}} H(4nN) + \delta_{k,2} \sigma_1(n).$$

Corresponding sign changes should be made throughout of proofs of Proposition 2.2 and Corollary 2.3.

4. p. 717: The conclusion of Proposition 2.2 should read

$$\left| \text{tr}_{S_k^{\text{new}}(N)} T_n + \frac{1}{4} n^{\frac{k-2}{4}} H(4nN) \right| < \left( 2^{\omega(N)}(4n)^{\frac{k}{2}} + \delta_{k,2} \right) \sigma_1(n).$$

5. p. 718: The conclusion of Corollary 2.3 should read

$$N^{\frac{1}{2} - \epsilon} \ll \pm \text{tr}_{S_k^{\text{new}}(N)} T_n \ll N^{\frac{1}{2}} \log N.$$

6. p. 718, bottom: the phrase “when $k \equiv 2 \mod 4$, and approximately like $\pm \sqrt{N}$ when $k \equiv 0 \mod 4$” should be removed.

REFERENCES


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