

CORRECTION

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Correction to: On the spectral norms of r -circulant matrices with the bi-periodic Fibonacci and Lucas numbers

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1 Correction

In the publication of this article [1], there are a few errors.

(1) Page 4, line 4:

The statement $\frac{1}{(ab)^{m+1}}[\alpha^{2m+1} + \beta^{2m+1} - (-1)^m] - 2$ should instead read:
 $\frac{1}{(ab)^{m+1}}[\alpha^{2m+1} + \beta^{2m+1}] + (-1)^m - 2$.

(2) Page 4, line 6:

The statement $(\frac{1}{a})l_m l_{m+1} = \frac{1}{(ab)^{m+1}}[\alpha^{2m+1} + \beta^{2m+1} - (-1)^m]$ should instead read:
 $(\frac{1}{a})l_m l_{m+1} = \frac{1}{(ab)^{m+1}}[\alpha^{2m+1} + \beta^{2m+1}] + (-1)^m$.

(3) Page 8, Equation (16):

The matrix F should instead read:

$$F = \begin{bmatrix} 1 & 1 & 1 & \dots & 1 \\ r(\frac{b}{a})^{\frac{\xi(n-1)}{2}} l_{n-1} & 1 & 1 & \dots & 1 \\ r(\frac{b}{a})^{\frac{\xi(n-2)}{2}} l_{n-2} & r(\frac{b}{a})^{\frac{\xi(n-1)}{2}} l_{n-1} & 1 & \dots & 1 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ r(\frac{b}{a})^{\frac{\xi(1)}{2}} l_1 & r(\frac{b}{a})^{\frac{\xi(2)}{2}} l_2 & r(\frac{b}{a})^{\frac{\xi(3)}{2}} l_3 & \dots & 1 \end{bmatrix}.$$

(4) Page 8, line 15: The equation $r_1(F)$ should instead read:

$$r_1(F) = \max_{1 \leq i \leq n} \sqrt{\sum_{j=1}^n |f_{ij}|^2} = \sqrt{1 + |r|^2 \sum_{k=1}^{n-1} \left(\frac{b}{a}\right)^{\xi(k)} l_k^2} = \sqrt{1 + |r|^2 \left(\frac{l_n l_{n-1}}{a} - 2\right)}.$$

(5) Page 9, lines 2 and 4, page 10, line 11 and Theorem 2.3 on page 7:

The statement $|r|(\frac{l_n l_{n-1}}{a} + 2)$ should instead read:

$$\sqrt{\frac{l_n l_{n-1}}{a}} + 2\sqrt{1 + |r|^2 \left(\frac{l_n l_{n-1}}{a} - 2\right)}.$$

(6) Page 10, line 20:

The statement $|r|^2 \frac{q_n q_{n-1}}{a} (\frac{l_n l_{n-1}}{a} + 2)l$ should instead read:

$$|r|^2 \frac{q_n q_{n-1}}{a} \sqrt{\frac{l_n l_{n-1}}{a}} + 2\sqrt{1 + |r|^2 \left(\frac{l_n l_{n-1}}{a} - 2\right)}.$$

This has now been included in this erratum.

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Competing interests

The authors declare that there are no competing interests with any individual or institution.

Authors' contributions

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