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Corrigendum to "Generalized Cesàro Matrices"

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Abstract. This note corrects an error in Theorem 1 of *Generalized Cesàro matrices*, Canad. Math. Bull. **27**(1984), no. 4, 417–422.

In [2], an exact value is asserted for the Hilbert–Schmidt norm of the operator studied, but only *less than or equal to* that value is actually justified. Consequently, after typographical errors are also corrected, Theorem 1 and the sentence preceding it should read as follows:

The computation

$$\sum_{i=0}^{\infty}\sum_{j=i}^{\infty}\Big(\frac{\alpha^{j-i}}{j+1}\Big)^2=\sum_{i=0}^{\infty}\sum_{j=0}^{i}\Big(\frac{\alpha^{i-j}}{i+1}\Big)^2\le\sum_{m=0}^{\infty}\alpha^{2m}\Big(\sum_{n=m+1}^{\infty}\frac{1}{n^2}\Big)\le\frac{1}{6}\pi^2(1-\alpha^2)^{-1}<\infty$$

proves the following slightly stronger result.

Theorem 1 *A_α, $\alpha\in(0,1)$, is a Hilbert–Schmidt operator on ℓ^2 with*

$$\|A_\alpha\|_2^2\le\sum_{m=0}^{\infty}\alpha^{2m}\Big(\sum_{n=m+1}^{\infty}\frac{1}{n^2}\Big),$$

where $\|\cdot\|_2$ denotes the Hilbert–Schmidt norm [1, pp. 17–20].

References

[1] P. R. Halmos and V. S. Sunder, *Bounded integral operators on L^2 spaces.* Ergebnisse der Mathematik und ihrer Grenzgebiete, 96, Springer-Verlag, New York, 1978.
[2] H. C. Rhaly Jr., *Generalized Cesàro matrices.* Canad. Math. Bull. **27**(1984), no. 4, 417–422. http://dx.doi.org/10.4153/CMB-1984-064-5

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