

*CORRIGENDUM TO "ON THE SPECTRAL MULTIPLICITY  
OF A DIRECT SUM OF OPERATORS"*

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BY

M. T. KARAEV (Isparta)

The author regrets to inform about the following mistakes in the formulation of Theorem 1 and in the proof of Lemma 2.

**1.** The formulation of Theorem 1 on p. 106 should be replaced with the following (note in particular that condition (iii) is deleted):

**THEOREM 1.** *Let  $Y$  be a Banach space with a basis  $\{e_n\}_{n \geq 0}$  of unit vectors, which is continuously embedded in  $l^p$  for some  $p, 1 \leq p \leq \infty$ . Let  $\{\lambda_n\}_{n \geq 0}$  denote a sequence of nonzero complex numbers, and let  $T$  be the corresponding weighted shift operator continuously acting in  $Y$ ,  $Te_n = \lambda_n e_{n+1}, n \geq 0$ . Let  $X$  be a separable Banach space and  $A \in L(X)$ . Suppose that:*

- (i)  $\sum_{n,m \geq N} |w_{n+m}/w_n w_m| =: \Omega_N < \infty$  for some  $N \geq 0$ , where  $w_n = \lambda_0 \lambda_1 \cdots \lambda_{n-1}, w_0 = 1$ .
- (ii)  $\sum_{n=0}^{\infty} (\|A^n x\|_X / \|T^n e_0\|_Y)^q =: C_x < \infty$  for all  $x \in X$ , where  $1/p + 1/q = 1$ .

Then

$$\mu(T \oplus A) = \mu(T) + \mu(A) = 1 + \mu(A).$$

**2.** Line 12 on p. 107 should be replaced with the following:

$$\|R_N(T^k f)\| \leq c_N \|T^k f\|, \quad k = 0, 1, \dots, N-1.$$

**3.** Line 13 on p. 107 should be deleted.

**4.** Lines 4–12 on p. 108 should be replaced with the following:

From this, by using the equality  $|f(i)| = \|f(i)e_i\|_Y$  and inequality (1) we obtain

$$\begin{aligned}
\|f \widetilde{\otimes} g\| &\leq |f(0)| \|g\| + \frac{|f(1)|}{|w_1|} \|Tg\| + \dots \\
&\quad + \frac{|f(N-1)|}{|w_{N-1}|} \|T^{N-1}g\| + |g(0)| \|R_N(f)\| \\
&\quad + \frac{|g(1)|}{|w_1|} \|R_N(Tf)\| + \dots + \frac{|g(N-1)|}{|w_{N-1}|} \|R_N(T^{N-1}f)\| \\
&\quad + \sum_{n=N}^{\infty} \sum_{m=N}^{\infty} \left| \frac{w_{n+m}}{w_n w_m} \right| \|f(n)e_n\| \|g(m)e_m\| \\
&\leq c \left[ \left( 1 + \frac{\|T\|}{|w_1|} + \dots + \frac{\|T^{N-1}\|}{|w_{N-1}|} \right) + c_N \left( 1 + \frac{\|T\|}{|w_1|} + \dots + \frac{\|T^{N-1}\|}{|w_{N-1}|} \right) \right] \\
&\quad + c \sum_{n=N}^{\infty} \sum_{m=N}^{\infty} \left| \frac{w_{n+m}}{w_n w_m} \right| \|f\| \|g\| \\
&\leq c \left[ (1 + c_N) \sum_{i=0}^{N-1} \frac{\|T^i\|}{|w_i|} + c\Omega_N \right] \|f\| \|g\| =: C \|f\| \|g\|.
\end{aligned}$$

**5.** In line 9 on p. 110,  $z$  should be replaced with  $e_1$ .

**6.** In line 17 on p. 111,  $|w_k|$  should be replaced with  $|w_k|^p$ .

Suleyman Demirel University  
Isparta Meslek Yüksekokulu (MYO)  
32260 Isparta, Turkey  
E-mail: garayev@fef.sdu.edu.tr

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