Corrigendum to the paper:

On the strong summability of orthogonal series*)

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Professor G. SUNOUCHI kindly drew my attention to a gap in Lemma 3. The given proof of this lemma is correct only in that case if under the condition (3. 1) $\frac{pk}{p-1}=2$ is fulfilled instead of $\frac{pk}{p-1}\geqq 2$. [1]) Consequently, the conditions of the theorems are satisfied only for $k<2$, so the theorems and corollaries are also valid for such powers k.

However, instead of Lemma 3, we can prove the following

Lemma. *Let $k>0$ and $\sum c_n^2<\infty$. If there exists a $p>1$ such that the conditions* (3. 1) *are satisfied, then for $\gamma>1-\frac{p-1}{pk}$ we have*

$$\int_a^b\left\{\sup_{1\leqq n<\infty}\left(\frac{1}{A_n}\sum_{\nu=0}^{n}\alpha_{n\nu}|\sigma_\nu^{\gamma-1}(x)-\sigma_\nu^{\gamma}(x)|^k\right)^{1/k}\right\}^2 dx\leqq K\sum_{n=0}^{\infty}c_n^2.$$

Using this lemma we obtain that Theorem 1 and 2, for arbitrary $k>0$ but with $\gamma>1-\frac{p-1}{pk}$ instead of $\gamma>\frac{1}{2}$, remain valid.

The modified theorems also include the theorems of SUNOUCHI [2]).

Proof of Lemma. We have as in the proof of Lemma 3 that

$$\int_a^b\left\{\sup_{1\leqq n<\infty}\left(\frac{1}{A_n}\sum_{\nu=0}^{n}\alpha_{n\nu}|\sigma_\nu^{\gamma-1}(x)-\sigma_\nu^{\gamma}(x)|^k\right)^{1/k}\right\}^2 dx\leqq$$

$$\leqq K_1\int_a^b\left(\sum_{\nu=1}^{\infty}\nu^{-1}|\sigma_\nu^{\gamma-1}(x)-\sigma_\nu^{\gamma}(x)|^{qk}\right)^{2/qk}dx.$$

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*) *Acta Sci. Math.*, **27** (1966), 217—228.

[1]) We use the same notation as in the paper.

[2]) G. SUNOUCHI, On the strong summability of orthogonal series, *Acta. Sci. Math.*, **27** (1966), 71—79.

Using a theorem of FLETT [3]) we obtain that

$$\int_a^b \left(\sum_{\nu=1}^{\infty} \nu^{-1} |\sigma_\nu^{\gamma-1}(x) - \sigma_\nu^{\gamma}(x)|^{qk} \right)^{2/qk} dx \leqq K_2 \int_a^b \left(\sum_{\nu=1}^{\infty} \nu^{-1} |\sigma_\nu^{\alpha-1}(x) - \sigma_\nu^{\alpha}(x)|^2 \right) dx,$$

where $\frac{1}{2} < \alpha < \gamma - \frac{1}{2} + \frac{p-1}{pk}$.

From this, by Lemma 2, we get the statement of the Lemma.

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[3]) On an extension of absolute summability and some theorems of LITTLEWOOD and PALEY, *Proc. London Math. Soc.*, 7 (1957), 113—141, cf. in particular p. 115.