STUDIA MATHEMATICA 212 (3) (2012)

Addendum to the paper "Generalizations to monotonicity for uniform convergence of double sine integrals over $\overline{\mathbb{R}}^2_+$"

(Studia Math. 201 (2010), 287–304)

by

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We have observed that condition (2.12) is superfluous in our Theorem 1. It is used only in the proof of Case (i): $0 \le a_1 < b_1 \le 1/u$ and $0 \le a_2 < b_2 \le 1/v$ (see p. 297). But, using (4.1) (which is an ε-version of (2.11)) instead of (4.2) (which is an ε-version of (2.12)) gives the following (cf. (4.6) for the notation):

$$\begin{aligned}|I_{uv}(f;a_1,b_1;a_2,b_2)| &:= \Big|\int_{a_1}^{b_1}\int_{a_2}^{b_2} f(x,y)\sin ux \sin vy\,dx\,dy\Big|\\ &\le uv\int_{a_1}^{b_1}\int_{a_2}^{b_2} xy|f(x,y)|\,dx\,dy\\ &\le uv\int_{a_1}^{b_1}\int_{a_2}^{b_2} \varepsilon\,dx\,dy \le uvb_1b_2\varepsilon \le \varepsilon\end{aligned}$$

whenever $\max\{a_1,a_2\} > b_0$.

The rest of the proof of Theorem 1 remains unchanged.

Thus, Theorem 1 (p. 291) becomes the following:

THEOREM 1. *Assume the function* $f : \mathbb{R}^2_+ \to \mathbb{C}$ *satisfies condition* (2.3) *and belongs to the class* $\mathrm{MVBVF}(\mathbb{R}^2_+)$. *If for all* $x, y > 0$ *we have*

$$xyf(x,y) \to 0 \quad \text{as } \max\{x,y\} \to \infty, \tag{2.11}$$

then the double sine integrals (2.1) *converge in the regular sense uniformly in* $(u,v) \in \mathbb{R}^2_+$.

2010 *Mathematics Subject Classification*: Primary 26A46, 26B30, 40A10; Secondary 42A32, 42B99.

DOI: 10.4064/sm212-3-5

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Received May 30, 2012 (7530)