Errata for "Henstock–Kurzweil Fourier transforms"

Erik Talvila

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Errata for *Illinois Journal of Mathematics*, Volume 46, Number 4, Winter 2002, pp. 1207–1226, "Henstock–Kurzweil Fourier transforms," by Erik Talvila.

Lemma 25(a) in this paper is incorrect. The error occurs in the proof of this lemma, page 1225, line 10, where a limit is brought inside an integral without justification. Part (a) of the lemma is correct, with the additional assumption that f has compact support. Part (b) of the lemma remains correct as stated in the paper with no further assumptions.

Due to reliance on Lemma 25(a), proofs of the following should include the assumption that f has compact support: Propositions 7, 8, 10(c), 15, and 16; Theorem 18; and Corollary 21.

Proposition 13 remains correct as stated. Write $\int_a^b f * g(x)\, dx = \int_a^b \int_{-\infty}^{\infty} f(y) \times g(x - y)\, dy\, dx$. Lemma 25(b) then allows interchange of repeated integrals.

Proposition 14 should be removed.

The following are typographic errors:

- Page 1208, line 1, for $\leq$, change to $=$.
- Page 1209, line 9, for $\leq$, change to $=$.
- Page 1219, line 30, for $f = \widehat{f}^{\vee}$, change to $\widehat{f}^{\vee}$.

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