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ERRATUM: CHANGE OF VARIABLE THEOREMS FOR THE KH INTEGRAL

Abstract

This note corrects a very misleading typographical error in the paper “Change of variable theorems for the KH integral”, Real Analysis Exchange 35(1), pp. 167–194.

Unfortunately, a small typographical error has seeped inside the abstract at line 2 of the printed version (φ should have been ψ), making it completely misleading. The right abstract says the following:

Let $f : [a, b] \subseteq \overline{\mathbb{R}} \rightarrow \mathcal{E}$ and $\varphi : [a, b] \rightarrow \mathcal{F}$, where $(\mathcal{E}, \mathcal{F}, \mathcal{G})$ is a Banach space triple. a) We prove that if ψ is continuous $[c, d] \rightarrow [a, b]$ and $f \circ \psi \cdot d\varphi \circ \psi$ is Kurzweil or Henstock variationally integrable, then so is $f \cdot d\varphi$ and fulfills the well known change of variable formula. It follows that if ψ is an indefinite Henstock integral and if $f \circ \psi \psi' dx$ is K-H integrable, then so is $f dx$ and the change of variable formula applies. b) We produce several versions of the converse of a), that is, we give necessary and sufficient conditions in order that with ψ as above, the integrability of $f \cdot d\varphi$ implies that of $f \circ \psi \cdot d\varphi \circ \psi$ and the change of variable formula.

Key words: integral, integration, Kurzweil, Henstock, generalized Riemann, substitution, change of variable, variational equivalence, Banach spaces
Received by the editors May 12, 2010
Communicated by: Paul D. Humke

