ERRATUM: GENERALIZED GROUP ALGEBRAS OF LOCALLY COMPACT GROUPS [COMM. ALGEBRA 36 (2008), NO. 9, 3559-3563]

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It has been brought to our notice that Lemma 9 of [1] is incorrect. Lemma 9 is used only in the proof of Proposition 10, but Proposition 10 is used in some of the results that follow it. We withdraw Lemma 9 and give here a new proof of Proposition 10, which is independent of the incorrect Lemma 9 and thus reinforce the correctness of all other results in [1].

Proposition 10 [1] If RG is right continuous then R is right continuous.

Proof. By Lemma 8 [1], R is right quasi-continuous. To prove that R is right continuous, we only need to show that every right ideal of R isomorphic to a direct summand of R is itself a direct summand of R. Let I be a right ideal isomorphic to eR for some $e = e^2 \in R$. Let $\sigma : I \to eR$ be a right R-module isomorphism. Then $\varphi : IG \to eRG$ given by $\varphi(\Sigma_{g\in G} a_g g) = \Sigma_{g\in G}\sigma(a_g)g$ for $a_g \in I$ and $g \in G$, is a right RG-module isomorphism. But since RG is right continuous, we have $IG = fRG$ for some $f = f^2 \in RG$. Suppose $f = \Sigma_{g\in G} f_g g$. Put $m = \Sigma_{g\in G} f_g$. Define $\psi : RG \to R$ by $\psi(\Sigma_{g\in G} r_g g) = \Sigma_{g\in G} r_g$. Then $\psi(f) = m$ and $m^2 = \psi(f)\psi(f) = \psi(f^2) = \psi(f) = m$. Thus m is an idempotent in R. Now, $I = \psi(IG) = \psi(fRG) = \psi(f)\psi(RG) = mR$. This shows that I is a direct summand of R. Therefore, R is right continuous. □

In view of the above, the main theorem of [1] for generalized group algebras still holds true.

Theorem 11 [1] If $L^1(G, A)$ is right continuous then G is finite and A is right continuous.

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References

[1] S. K. Jain, A. I. Singh, Ashish K. Srivastava, Generalized group algebras of locally compact groups. Comm. Algebra 36 (2008), no. 9, 3559-3563.

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