

Corrigendum to: Module Arens Regularity for Semigroup Algebras

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The last equivalence of the display in the proof of Theorem 2.2 (page 301) is not correct (and $b \in \mathcal{A}$ is missing inside the brackets of the fourth line of this display). As noted at the beginning of this section, \mathcal{A}' has a natural \mathcal{O} -module structure defined by

$$\alpha.\lambda(a) = \lambda(a.\alpha), \quad \lambda.\alpha(a) = \lambda(\alpha.a) \quad (\alpha \in \mathcal{O}, a \in \mathcal{A}, \lambda \in \mathcal{A}').$$

We need to modify Definition 2.1 as follows.

Definition 2.1 \mathcal{A} is called *module Arens regular* (as an \mathcal{O} -module) if the operator $\mathcal{R}_\lambda : \mathcal{A} \rightarrow \mathcal{A}'$; $a \mapsto a.\lambda$ is weakly compact for any $\lambda \in \mathcal{A}'$ satisfying $\lambda(\alpha.ab) =$

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$\lambda(ab.\alpha)$, $\lambda(c(\alpha.ab)) = \lambda(c(ab.\alpha))$, $\lambda((\alpha.ab)d) = \lambda((ab.\alpha)d)$, and $\lambda(c(\alpha.ab)d) = \lambda(c(ab.\alpha)d)$, for each $\alpha \in \mathcal{O}$ and $a, b, c, d \in \mathcal{A}$.

The conditions imposed on λ in the above definition are equivalent to the assumption that the operators \mathcal{R}_λ , $\mathcal{R}_{\lambda.c}$, $\mathcal{R}_{d.\lambda}$, and $\mathcal{R}_{d.\lambda.c}$ are right \mathcal{O} -module homomorphisms, for each $a, b, c, d \in \mathcal{A}$. Now it is easy to show that $\lambda \in \mathcal{A}'$ satisfies the above conditions if and only if $\lambda \in J^\perp$. This fixes the proof of Theorem 2.2. The rest of the paper is now correct.