ERRATA FOR "FINITE GENERATION OF SYMMETRIC IDEALS"

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We correct a minor misstatement in the paper [1]. What is referred throughout as the "group ring" should instead be replaced by the "skew group ring" [2, p. 13]. Specifically, the ring $R[\mathfrak{S}_X]$ should be replaced with $R * \mathfrak{S}_X$. This ring is formally the set of all finite linear combinations,

$$R * \mathfrak{S}_X = \left\{ \sum_{i=1}^{m} r_i \sigma_i : r_i \in R, \sigma_i \in \mathfrak{S}_X \right\}.$$

Multiplication is given by $f\sigma \cdot g\tau = f(\sigma g)\tau$ for $f, g \in R$, $\sigma, \tau \in \mathfrak{S}_X$, and extended by linearity. The natural multiplication in $R[\mathfrak{S}_X]$ does not make R into an $R[\mathfrak{S}_X]$-module as claimed in [1] (associativity fails), which is why we must use $R * \mathfrak{S}_X$ instead.

This change affects none of the results in the paper since the multiplicative structure of $R[\mathfrak{S}_X]$ was never used except to simplify the statement of our main result. The proper statement is as follows.

Theorem 0.1. *Every ideal of $R = A[X]$ invariant under $\mathfrak{S}_X$ is finitely generated as an $R * \mathfrak{S}_X$-module.* (*Stated more succinctly, R is a Noetherian $R * \mathfrak{S}_X$-module.*)

References

[1] M. Aschenbrenner and C. Hillar, *Finite generation of symmetric ideals*, Trans. Amer. Math. Soc., **359** (2007), 5171–5192.

[2] T. Y. Lam, *A first course in noncommutative rings*, Graduate Texts in Mathematics, vol. 131, Springer-Verlag, New York, 1991.

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