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Corrigendum to Example in "Quantum Drinfeld Hecke Algebras"

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Abstract. The last example of the article contains an error which we correct. We also indicate some indices in Theorem 11.1 that were accidently transposed.

Some indices were transposed in [1, Theorem 11.1]. The condition in parts (iii) and (iv) should be $q_{12} = q_{23} = q_{31}$; the parameter q_{13}^{-1} in part (v)(a) should be replaced by q_{31}^{-1}. The last example should have indicated the following relations $\mathcal{R}$ defining all quantum Drinfeld Hecke algebras $\mathcal{H} \cong \mathbb{K}\langle v_1, v_2, v_3\rangle \# G/\langle \mathcal{R}\rangle$ over a field $\mathbb{K}$ of characteristic not 2.

(I) For $q_{13} = 1, q_{12}q_{23} = 1$:

- (a) If $q_{12} \neq q_{23}$, then the relations are $v_2v_1 = q_{12}v_1v_2$, $v_3v_2 = q_{12}^{-1}v_2v_3$, and $v_3v_1 = v_1v_3$.
- (b) If $q_{12} = q_{23}$, then the parameter $\kappa_4(1,3)$ can be chosen freely in $\mathbb{K}$ and the relations are $v_2v_1 = q_{12}v_1v_2$, $v_3v_2 = q_{12}v_2v_3$, and $v_3v_1 = v_1v_3 + \kappa_4(1,3)(t_{g_4} - t_{g_5})$.

(II) For $q_{13} = -1, q_{12}q_{23} = 1$:

- (c) If $q_{12}^2 = -1$ (giving a primitive fourth-root-of-unity), then $\kappa_2(1,3)$ can be chosen freely in $\mathbb{K}$ and the relations are $v_2v_1 = q_{12}v_1v_2$, $v_3v_2 = -q_{12}v_2v_3$, and $v_3v_1 = -v_1v_3 + \kappa_2(1,3)(t_{g_2} - t_{g_7})$.
- (d) Otherwise, the relations are $v_2v_1 = q_{12}v_1v_2$, $v_3v_2 = q_{12}^{-1}v_2v_3$, and $v_3v_1 = -v_1v_3$.

Note that in the nonquantum setting, when $q_{13} = q_{12} = q_{23} = 1$, we recover a one-parameter family of classical Hecke Drinfeld algebras from Case (I)(b). In the quantum setting, we obtain several other one-parameter families of algebras.

References

[1] V. Levandovskyy and A. Shepler, *Quantum Drinfeld Hecke Algebras.* Canad. J. Math. **66**(2014), 874–901. http://dx.doi.org/10.4153/CJM-2013-012-2

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