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Erratum

Kazuyuki Oshima: A Spin-Shift Operator of the Multi-particle Ruijsenaars–Schneider Hamiltonian, *Lett. Math. Phys.* **60** (2002), 59–71 (Received: 17 December 2002)

The computation in Proposition 2 is incorrect. Let $\tau(\lambda^\vee) = \pi^k s_{i_1} \dots s_{i_l}$ be a reduced expression. We define the length $\ell(\tau(\lambda^\vee)) := l$. We write $\lambda^\vee \prec \mu^\vee$ if $\ell(\lambda^\vee) < \ell(\mu^\vee)$.

With this notation established, Equation (27) in Proposition 2 should be replaced by

$$\left\{\sum_{i=1}^{n}\prod_{j=1}^{i-1}\frac{a[qx_i, q^{-1}x_j]a[x_j, x_i]}{a[q^{-1}x_j, qx_i]}a[x_i, x_{i+1}]\cdots a[x_i, x_n]\tau(-\omega_{i-1}^\vee + \omega_i^\vee)\right\}\times$$
$$\times\left\{\prod_{i<j}a[x_i, x_j]\sum_{w\in W}\operatorname{sgn}(w)\left(\prod_{s=1}^{n-2}\prod_{i+s<j}a[q^s x_{w(i)}, q^{-s}x_{w(j)}]\tau(w(\rho^\vee))+\right.\right.$$
$$\left.\left.+\sum_{\lambda^\vee\prec\rho^\vee}G_{\lambda^\vee}\tau\big(w\big(\lambda^\vee\big)\big)\right)\right\}$$
$$=\left\{\prod_{i<j}a[x_i, x_j]\sum_{w\in W}\operatorname{sgn}(w)\left(\prod_{s=1}^{n-2}\prod_{i+s<j}a[q^s x_{w(i)}, q^{-s}x_{w(j)}]\tau(w(\rho^\vee))+\right.\right.$$
$$\left.\left.+\sum_{\lambda^\vee\prec\rho^\vee}G_{\lambda^\vee}\tau\big(w\big(\lambda^\vee\big)\big)\right)\right\}\times$$
$$\times\left\{\sum_{i=1}^{n}a[x_i, x_1]\cdots a[x_i, x_{i-1}]a[x_i, x_{i+1}]\cdots a[x_i, x_n]\tau(-\omega_{i-1}^\vee + \omega_i^\vee)\right\},\qquad(1)$$

where $G_{\lambda^\vee}$ is some meromorphic function in Λ_n.

This leads to the following reformulation of Theorem 1.

THEOREM 1. *The explicit expression of the spin-shift operator D_l for the multi-particle Ruijsenaars–Schneider Hamiltonian is*

$$D_l = \sum_{w\in W}\operatorname{sgn}(w)\left(\prod_{\substack{i<j\\ w(i)>w(j)}}a[x_{w(j)}, x_{w(i)}]a[q^{-1}x_{w(j)}, qx_{w(i)}]\times\right.$$
$$\times\prod_{s=1}^{n-2}\prod_{\substack{i+s<j\\ w(i)>w(j)}}a[q^s x_{w(i)}, q^{-s}x_{w(j)}]a[q^{-s-1}x_{w(j)}, q^{s+1}x_{w(i)}]\tau(w(\rho^\vee))+$$
$$\left.+\sum_{\lambda^\vee\prec\rho^\vee}G_{\lambda^\vee}\tau\big(w\big(\lambda^\vee\big)\big)\right).\qquad(2)$$

The calculation of $G_{\lambda^\vee}$ is, to my knowledge, still open.