ERRATUM TO “EXISTENCE OF KIRILLOV–RESHETIKHIN CRYSTALS FOR NONEXCEPTIONAL TYPES”

MASATO OKADO AND ANNE SCHILLING

In this note we would like to correct some errors and omissions in our paper [2].

- (1) In [2, Table 1], node n for type $B_n^{(1)}$ should not be filled. Also, the terminology “spin node” as used on the top of page 197 is misleading. In [1] we use the terminology “exceptional node” instead.
- (2) In [2, Section 4.2], the decomposition of $W_s^{(n)}$ for $B_n^{(1)}$ as a $U_q(\mathfrak{g}_0)$ -module should be given by [2, Eq. (4.1)], where we identify ϖ_n with a column of height n and of width $1/2$, and ω runs over all partitions that can be obtained from the $n \times (s/2)$ rectangle by removing vertical dominoes.
- (3) The proof of [2, Proposition 6.1] does not apply to the case of type $A_{2n-1}^{(2)}$ and columns of height n (since the inner $\pm$ -diagram p is not allowed to have empty columns). See the proof of [1, Theorem 5.1] for this case.

The first paragraph of Section 4.3 of [2] needs to be extended to the case $r = n$ for $B_n^{(1)}$, which is done below.

0.1. Calculation of prepolarization: $B_n^{(1)}, r = n$ case. Let $n' = \lfloor n/2 \rfloor$. Let $\mathbf{c} = (c_1, c_2, \dots, c_{n'})$ be a sequence of integers such that $s/2 \geq c_1 \geq c_2 \geq \dots \geq c_{n'} \geq 0$. For such $\mathbf{c}$ we define a vector u_m ($0 \leq m \leq n'$) in $W_s^{(n)}$ inductively by

$$u_m = (e_{n-2m}^{(c_m)} \cdots e_2^{(c_m)} e_1^{(c_m)}) (e_{n-2m+1}^{(c_m)} \cdots e_3^{(c_m)} e_2^{(c_m)}) e_0^{(c_m)} u_{m-1},$$

where u_0 is the vector in (iii) of [2, Proposition 3.5]. Set $u(\mathbf{c}) = u_{n'}$. The weight of $u(\mathbf{c})$ is given by

$$\lambda(\mathbf{c}) = \sum_{j=0}^{n'} (c_j - c_{j+1})(1 + \delta_{j0}) \varpi_{n-2j},$$

where we have set $c_0 = s/2, c_{n'+1} = 0$, and ϖ_0 should be understood as 0. $\lambda(\mathbf{c})$ represents all ω in [2, Eq. (4.1)] when $\mathbf{c}$ runs over all possible sequences. The following proposition calculates values of the prepolarization $(\ , \)$ on $W_s^{(n)}$.

Proposition 1.

$$(1) \quad (u(\mathbf{c}), u(\mathbf{c})) = \prod_{j=1}^{n'} q^{c_j(s-c_j)} \begin{bmatrix} s \\ c_j \end{bmatrix},$$

Received by the editors November 9, 2008.

2000 *Mathematics Subject Classification.* Primary 17B37, 81R50; Secondary 05E15, 81R10.

©2008 American Mathematical Society
 Reverts to public domain 28 years from publication

- (2) $(e_j u(\mathbf{c}), e_j u(\mathbf{c})) = 0$ unless $n - j \in 2\mathbb{Z}_{\geq 0}$. If $n - j \in 2\mathbb{Z}_{\geq 0}$, then setting $p = (n - j)/2 + 1$, $(e_j u(\mathbf{c}), e_j u(\mathbf{c}))$ is given by

$$\prod_{j=1}^{n'} q^{(c_j - \delta_{j,p})(s - c_j)} \begin{bmatrix} s - \delta_{j,p} \\ c_j - \delta_{j,p} \end{bmatrix} \times \begin{cases} q_n^{s-1} [s]_n & \text{if } p = 1, \\ q^{s - c_{p-1} - 1} [s - c_{p-1}] & \text{if } p > 1. \end{cases}$$

REFERENCES

- [1] G. Fourier, M. Okado, A. Schilling, *Kirillov-Reshetikhin crystals for non-exceptional types*, preprint arXiv:0810.5067v1 [math.RT].
- [2] M. Okado, A. Schilling, *Existence of Kirillov-Reshetikhin crystals for nonexceptional types*, Representation Theory **12** (2008) 186–207. MR2403558

DEPARTMENT OF MATHEMATICAL SCIENCE, GRADUATE SCHOOL OF ENGINEERING SCIENCE, OSAKA UNIVERSITY, TOYONAKA, OSAKA 560-8531, JAPAN

E-mail address: okado@sigmath.es.osaka-u.ac.jp

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF CALIFORNIA, ONE SHIELDS AVENUE, DAVIS, CALIFORNIA 95616-8633

E-mail address: anne@math.ucdavis.edu