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Corrigendum

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After publication, we became aware of the mistakes in the norm of the gl_2-Jack polynomials. The expression of the norm depends on the number of particles, and we have used an inappropriate one in our paper.

The norm (73)

$$\left\{P_\mu^{(2\lambda+1)}, P_\mu^{(2\lambda+1)}\right\}_{N,\lambda} = c_N^{(2\lambda+1,2)} \prod_{s\in C_2(\mu)} \frac{a'(s) + (2\lambda+1)(N - l'(s))}{a'(s) + 1 + (2\lambda+1)(N - l'(s) - 1)} \times \prod_{s\in H_2(\mu)} \frac{a(s) + 1 + (2\lambda+1)l(s)}{a(s) + (2\lambda+1)(l(s)+1)}$$

should be replaced by

$$\left\{P_\mu^{(2\lambda+1)}, P_\mu^{(2\lambda+1)}\right\}_{N,\lambda} = c_N^{(2\lambda+1,2)} \prod_{\substack{s\in C_2(\mu)(N:\text{even})\\ s\in D(\mu)\backslash C_2(\mu)(N:\text{odd})}} \frac{a'(s) + (2\lambda+1)(N - l'(s))}{a'(s) + 1 + (2\lambda+1)(N - l'(s) - 1)} \times \prod_{s\in H_2(\mu)} \frac{a(s) + 1 + (2\lambda+1)l(s)}{a(s) + (2\lambda+1)(l(s)+1)}.$$

Following this modification, equation (78)

$$Y_\mu(r) \equiv \prod_{s\in C_2(\mu)} (\alpha a'(s) + r + (N - 1 - l'(s))/2)$$

should be replaced by

$$Y_\mu(r) \equiv \prod_{s\in D(\mu)\backslash C_2(\mu)} (\alpha a'(s) + r + (N - 1 - l'(s))/2),$$

equation (95)

$$Y_\mu(r) = \prod_{j=1}^{2\lambda+1} \frac{\Gamma[\alpha + r + N/2 + (j-1)/(2\lambda+1)]}{\Gamma\left[\left(\tilde{\mu}'_0 - \tilde{\mu}'_j + 1 + \delta_{\sigma_0\sigma_j}\right)/2 - \alpha + r\right]}$$

should be replaced by

$$Y_\mu(r) = \prod_{j=1}^{2\lambda+1} \frac{\Gamma[r + N/2 + (j-1)/(2\lambda+1)]}{\Gamma\left[\left(\tilde{\mu}'_0 - \tilde{\mu}'_j + 2 - \delta_{\sigma_0\sigma_j}\right)/2 - \alpha + r\right]},$$

equation (98)

$$K_\lambda(N) = \frac{\Gamma((\lambda+1/2)N - \lambda)\Gamma(\lambda+1)}{\Gamma((\lambda+1/2)N - \lambda)} \frac{(\Gamma[((\lambda+1)/(2\lambda+1))])^{2\lambda+1}}{\prod_{j=1}^{2\lambda+1}(\Gamma[j/(2\lambda+1)])^2} \times \prod_{j=1}^{2\lambda+1} \frac{\Gamma[j/(2\lambda+1) + N/2 - \alpha]}{\Gamma[j/(2\lambda+1) + N/2 - 1/2]}$$

should be replaced by

$$K_\lambda(N) = \frac{\Gamma((\lambda+1/2)N-\lambda)\Gamma(\lambda+1)}{\Gamma((\lambda+1/2)N)} \frac{(\Gamma[((\lambda+1)/(2\lambda+1))])^{2\lambda+1}}{\prod_{j=1}^{2\lambda+1}(\Gamma[j/(2\lambda+1)])^2} \times \prod_{j=1}^{2\lambda+1} \frac{\Gamma[j/(2\lambda+1)+N/2-2\alpha]}{\Gamma[j/(2\lambda+1)+N/2-\alpha-1/2]},$$

and finally equation (99)

$$F(\{\tilde{\mu}'_j,\sigma_j\}) = \prod_{j=1}^{2\lambda+1} \frac{\Gamma\left[\left(\tilde{\mu}'_0-\tilde{\mu}'_j+\delta_{\sigma_j\sigma_0}\right)/2\right]}{\Gamma\left[\left(\tilde{\mu}'_0-\tilde{\mu}'_j+1+\delta_{\sigma_j\sigma_0}\right)/2-\alpha\right]} \times \prod_{j=1}^{2\lambda+1} \frac{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_{2\lambda+2}+1-\delta_{\sigma_j\sigma_{2\lambda+2}}\right)/2\right]}{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_{2\lambda+2}+1-\delta_{(\sigma_j\sigma_{2\lambda+2})}\right)/2+1/2-\alpha\right]} \prod_{1\leqslant j<k\leqslant 2\lambda+1} \times \frac{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k+\delta_{\sigma_j\sigma_k}\right)/2+\alpha\right]\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k+\delta_{\sigma_j\sigma_k}\right)/2+1/2\right]}{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k-\delta_{\sigma_j,\sigma_k}\right)/2+1/2\right]\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k-\delta_{\sigma_j\sigma_k}\right)/2+1-\alpha\right]}$$

should be replaced by

$$F(\{\tilde{\mu}'_j,\sigma_j\}) = \prod_{j=1}^{2\lambda+1}\prod_{k=0,2\lambda+2} \frac{\Gamma\left[\left(|\tilde{\mu}'_j-\tilde{\mu}'_k|+1-\delta_{\sigma_j\sigma_k}\right)/2\right]}{\Gamma\left[\left(|\tilde{\mu}'_j-\tilde{\mu}'_k|+1-\delta_{\sigma_j\sigma_k}\right)/2+1/2-\alpha\right]} \prod_{1\leqslant j<k\leqslant 2\lambda+1} \times \frac{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k+\delta_{\sigma_j\sigma_k}\right)/2+\alpha\right]\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k+\delta_{\sigma_j\sigma_k}\right)/2+1/2\right]}{\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k-\delta_{\sigma_j,\sigma_k}\right)/2+1/2\right]\Gamma\left[\left(\tilde{\mu}'_j-\tilde{\mu}'_k-\delta_{\sigma_j\sigma_k}\right)/2+1-\alpha\right]}.$$

In appendix B, due to the mistake in the use of the symbol, equation (B.21)

$$\prod_{j\in[1,3,\cdots,2\lambda+1]}\Gamma[1-\alpha(j-1)]\prod_{j\in[2,4,\cdots,2\lambda]}\Gamma[1/2-\alpha(j-1)] = \prod_{j=1}^{2\lambda+1}\Gamma[j/(2\lambda+1)]$$

should be replaced by

$$\prod_{j\in\{1,3,\cdots,2\lambda+1\}}\Gamma[1-\alpha(j-1)]\prod_{j\in\{2,4,\cdots,2\lambda\}}\Gamma[1/2-\alpha(j-1)] = \prod_{j=1}^{2\lambda+1}\Gamma[j/(2\lambda+1)].$$

The derivation of $Y_\mu(r)$ should also be modified as follows. The sentences just before equation (B.23)

> When $(i,j)\in C_2(\mu)$, both i and j are odd or even. The maximum value $i_{\max}$ of i in the jth column is given by $i_{\max}=\mu'_j-\delta_{\sigma_j\sigma_0}$.

should be replaced by

> When $(i,j)\in D(\mu)\backslash C_2(\mu)$, $(i,j)\in$ (even, odd) or (odd, even). The maximum value $i_{\max}$ of i in the jth column is given by $i_{\max}=\mu'_j-1+\delta_{\sigma_j\sigma_0}$.

The relation between (B.23), (B.24) and j should be changed to (B.23) for even j and (B.24) for odd j, and the result (B.25)

$$\prod_{j\in[1,3,\cdots,2\lambda+1]}\Gamma[\alpha(j-1)+r+(N+1)/2]\prod_{j\in[2,4,\cdots,2\lambda]}\Gamma[\alpha(j-1)+r+N/2] = \prod_{j=1}^{2\lambda+1}\Gamma[\alpha+r+N/2+(j-1)/(2\lambda+1)]$$

should be replaced by

$$\prod_{j\in\{2,4,\cdots,2\lambda\}} \Gamma[\alpha(j-1)+r+(N+1)/2] \prod_{j\in\{1,3,\cdots,2\lambda+1\}} \Gamma[\alpha(j-1)+r+N/2]$$
$$= \prod_{j=1}^{2\lambda+1} \Gamma[r+N/2+(j-1)/(2\lambda+1)].$$