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2004 J. Phys. A: Math. Gen. 37 6855

(http://iopscience.iop.org/0305-4470/37/26/C01)

J. Phys. A: Math. Gen. **37** (2004) 6855 www.iop.org/Journals/ja PII: S0305-4470(04)80764-9

Corrigendum

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H Grosse, E Langmann and C Paufler 2004 *J. Phys. A: Math. Gen.* **37** 4579–4592

The result obtained in appendix C.2 and stated in section 6 of our paper is incorrect. The generalization of this model to distinguishable particles is *not* exactly solvable by the coordinate Bethe ansatz. As explained below, the source of our mistake was an incorrect interpretation of equation (C4) in appendix C.1. Appendix C is now redundant, as are the last two sentences of our abstract. The parts in the introduction and conclusions referring to this result should be removed.

This does not affect the results in the rest of the paper: to the best of our knowledge, the results in sections 2 to 5 and appendices A and B are correct.

Our mistake happened in our interpretation of a subtle point in Yang's arguments (reference [3] in our paper). We were mislead by one of our sources to use an unfortunate notation covering up this point, and therefore we missed the fact that the ansatz we made in equation (26) leads to additional consistency requirements which are, sadly, not fulfilled. (To be sure that the argument cannot be saved, we have now checked with the symbolic computer programs MAPLE and MATHEMATICA that, in the three particle case, the coordinate Bethe ansatz for our model is consistent if and only if the wave function has either boson or fermion statistics.) To be more specific: while our equation (C4) is not incorrect, it is misleading the way it is written, and our interpretation spelled out in appendix C.1, remark 2, led us astray. To avoid this misunderstanding this equation is better written in the following way.

$$A_P(QR) = (\hat{R}A_P)(Q) = \sum_{Q' \in S_N} (\hat{R})_{Q,Q'} A_P(Q')$$

with $N! \times N!$ matrices $\hat{R}$ with the elements

$$(\hat{R})_{Q,Q'} = \delta_{Q',QR}$$

which obviously define a representation of S_N: as Yang (*ibid.*) points out, one should think of $A_P(Q)$ as components of a vector A_P labelled by the index $Q \in S_N$, and S_N acts naturally on these vectors by the regular representation. With that the consistency relations following from the Bethe ansatz for our model with momentum-dependent interactions are not fulfilled.

Our discussion in appendix C.1 should be corrected accordingly, but since it is redundant now we will not do it here.

The corrected version of our paper is available on the arXive.

doi:10.1088/0305-4470/37/26/C01