Erratum:

Critical phenomena in one dimension from a Bethe ansatz perspective

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In the paper *Int. J. Mod. Phys. B* **28**, 1430015 (2014), the equation (9) should be replaced by

$$v_s \approx \frac{\hbar\pi n}{m} \left(1 - \frac{4}{\gamma} + \frac{12}{\gamma^2} + \frac{16}{\gamma^3} \left(\frac{\pi^2}{3} - 2 \right) \right). \quad (1)$$

In addition, here we would like to mention that the exact results for various observables of the Lieb–Liniger model at $T = 0$ and at finite temperature were obtained by using field theory methods. The repulsive Lieb–Liniger Bose gas can be obtained as the nonrelativistic limit of the sinh-Gordon model.^{1,2} The local two- and three-body correlations have been calculated from the powerful field theory methods.^{3,4} On the other hand, large spin Bose gases have a rich phase diagram and exhibit various phases of quantum liquids.^{10,11} A pedagogical review of theoretical results for the Ising model universality class, including E_8 S-matrix, correlation functions, integrability breaking, etc, was discussed in terms of integrable field theory and critical phenomena.¹²

Moreover, the generalized Gibbs ensemble^{5–9} is used in discussions of non-thermal distributions in isolated systems with conserved laws. Recently there have been several papers focusing on the study of quench dynamics in regard to the validity of the generalized Gibbs Ensemble (GGE), see Refs. 13–17, etc. This research

has been becoming a new frontier in cold atoms and condensed matter physics. However, understanding thermalization of isolated many-body systems still imposes a big theoretical challenge.

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