

NOTES AND DISCUSSIONS | OCTOBER 01 2021

Erratum: “Two and three particles interacting in a one-dimensional trap” [Am. J. Phys. 85, 769 (2017)] **FREE**

MengXing Na; Frank Marsiglio 



Am. J. Phys. 89, 984 (2021)

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Erratum: “Two and three particles interacting in a one-dimensional trap” [Am. J. Phys. 85, 769 (2017)]

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In our paper,¹ we used two different dimensionless interaction constants g_0 and g_{ho} . They are related to one another (see just below Eq. (25) in the original paper) by $g_{ho}/g_0 = \pi/(\sqrt{2\rho})$, where $\rho \equiv E_1/(\hbar\omega)$ relates the infinite square well energy scale to the harmonic oscillator energy scale. We inadvertently used the wrong labels in Figs. 1–4. In these figures, all occurrences of g_0 should be replaced by g_{ho} . To relate the two, use $\rho = 1$ in Figs. 1 and 2, and $\rho = 50$ remains for Figs. 3 and 4.

The MATLAB codes in the supplementary material are standalone. For simplicity, the code uses g_0 where the harmonic oscillator is not involved (and, therefore, we have replaced *ifs_only_dirac_dist.m* and *ifs_only_dirac_bos.m*),²

reflecting Eq. (12). For the cases where the harmonic oscillator basis is used and the harmonic oscillator potential is embedded in the infinite square well potential, g_{ho} is used.

This mislabelling does not affect our qualitative results in any way but does adjust the scale of coupling strengths by a numerical factor. We wish to thank Paul Coones for alerting us to this error.

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¹MengXing Na and Frank Marsiglio, *Am. J. Phys.* **85**, 769–782 (2017).

²See the supplementary material <https://www.scitation.org/doi/suppl/10.1119/5.0065753> of the original article for the updated collection of matlab routines used to perform the calculations described in this paper.

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