



## Erratum

## Erratum to: “The penetrable-sphere fluid in the high-temperature, high-density limit” [Phys. Lett. A 323 (2004) 427]

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## ABSTRACT

A few misprints appearing in the paper [L. Acedo, A. Santos, Phys. Lett. A 323 (2004) 427] are corrected.  
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We have recently noticed a few misprints in Ref. [1], which, on the other hand, do not affect the physical results. The misprints are:

- Eq. (14) should be replaced by

$$\frac{s_{\text{ex}}^{\text{solid}}}{k_B} = d \ln \left[ 1 - \left( \frac{\hat{\eta}}{\alpha \eta_{\text{cp}}} \right)^{1/d} \right] + d \ln 2.$$

- Two lines below Eq. (14) of Ref. [1],  $a_{\text{ex}}^{\text{solid}} = u_{\text{ex}}^{\text{solid}} + T s_{\text{ex}}^{\text{solid}}$  should be replaced by  $a_{\text{ex}}^{\text{solid}} = u_{\text{ex}}^{\text{solid}} - T s_{\text{ex}}^{\text{solid}}$ .
- Twelve lines below Fig. 3 of Ref. [1],  $\mu_{\text{ex}}^{\text{fluid}}(\hat{\eta}_f) = \mu_{\text{ex}}^{\text{solid}}(\hat{\eta}_m)$  should be replaced by  $\mu^{\text{fluid}}(\hat{\eta}_f) = \mu^{\text{solid}}(\hat{\eta}_m)$ .
- The sixth and eighth columns of Table 2 of Ref. [1] need slight changes. The complete correct table is displayed as Table 1 of this Erratum.
- The shaded region in Fig. 3 of Ref. [1] should be slightly narrower. The correct figure is displayed as Fig. 1 of this Erratum.
- In Ref. [20b] of Ref. [1], 0161008 should be replaced by 016108.

**Table 1**

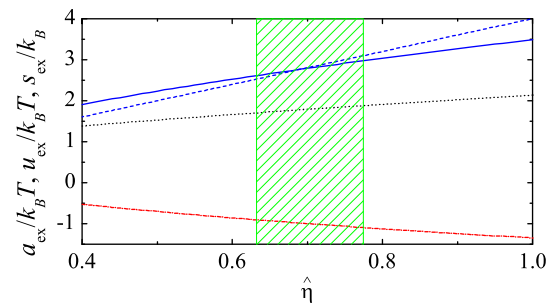
Values of the HS close-packing fraction  $\eta_{\text{cp}}$ , the wavenumber  $k_0$ , the nearest-neighbor distance  $r_0$ , the (scaled) spinodal instability packing fraction  $\hat{\eta}_0$ , the (scaled) freezing packing fraction  $\hat{\eta}_f$ , the (scaled) packing fraction  $\hat{\eta}_{\text{ms}}$  at the condition of marginal stability and the (scaled) melting packing fraction  $\hat{\eta}_m$ .

$d$	$\eta_{\text{cp}}$	$k_0 \sigma$	$r_0 / \sigma$	$\hat{\eta}_0$	$\hat{\eta}_f$	$\hat{\eta}_{\text{ms}}$	$\hat{\eta}_m$
1	1	4.49	1.40	2.30	1.00	1.00	1.00
2	$\sqrt{3}\pi/6 \simeq 0.91$	5.14	1.37	1.89	0.90	0.95	1.01
3	$\sqrt{2}\pi/6 \simeq 0.74$	5.76	1.34	1.45	0.63	0.69	0.77
4	$\pi^2/16 \simeq 0.62$	6.38	1.32	1.07	0.37	0.41	0.48
5	$\sqrt{2}\pi^2/30 \simeq 0.47$	6.99	1.30	0.76	0.22	0.26	0.32

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**Fig. 1.** Excess free energy per particle in the three-dimensional PS solid,  $a_{\text{ex}}^{\text{solid}}/k_B T$  (solid line), and PS fluid,  $a_{\text{ex}}^{\text{fluid}}/k_B T$  (dashed line), in the high-temperature limit. The excess internal energy,  $u_{\text{ex}}^{\text{solid}}/k_B T$  (dotted line), and the excess entropy,  $s_{\text{ex}}^{\text{solid}}/k_B$  (dashed-dotted line), of the PS solid are also plotted. The shaded area represents the fluid–solid coexistence region.

## References

- [1] L. Acedo, A. Santos, Phys. Lett. A 323 (2004) 427.