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ERRATUM

Is it possible to infer the equation of state of a mixture of hard discs from that of the one-component system?

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The numerical values in the sixth and seventh columns of table 1 of the paper are not correct. Consequently, the comments made in the paper about the better performance of the equation of state (12) proposed in [4] over the equation of state (6) proposed in the paper are wrong. The corrected version of table 1 is reprinted here. In view of this table, it is quite apparent that the results obtained from equation (6) are practically indistinguishable from those obtained from equation (12). For the cases considered in the table, both equations of state differ by less than 0.05% when combined with equation (14) for the one-component system and by less than 0.02% when combined with equation (15) for the one-component system. These differences increase, but are kept relatively small, when mixtures more asymmetric are considered. For instance, in the case $\alpha = 0.1$, $x_1 = 0.01$ and $\eta = 0.6$, the values of $p\sigma_1^2/k_BT$ predicted by (6) + (14), (6) + (15), (12) + (4) and (12) + (15) are 183.87, 186.26, 185.40 and 186.53, respectively. Table 1 also shows that, in general, the use of equation (15) gives better agreement with the simulation data typically for $\eta < 0.55$, while the use of equation (14) is preferable for $\eta > 0.55$.

Table 1. Comparison of Monte Carlo simulation values [9] of the quantity $p\sigma_1^2/k_BT$ with the predictions of several equations of state: equation (5) proposed by Wheatley [3], equation (6) derived in this paper, complemented by equations (14) and (15), and equation (12) proposed in [4], complemented by equations (14) and (15).

α	x_1	η	Simul.	(5)	(6)+(14)	(6)+(15)	(12)+(14)	(12)+(15)
0.9	0.48	0.54	3.70	3.72	3.6532	3.7057	3.6531	3.7058
0.9	0.49	0.63	6.54	6.78	6.6810	6.6867	6.6806	6.6870
0.8	0.65	0.55	4.05	4.06	3.9985	4.0511	3.9967	4.0515
0.8	0.315	0.55	4.72	4.71	4.6322	4.6970	4.6338	4.6972
0.8	0.52	0.60	5.88	5.96	5.8708	5.9126	5.8688	5.9136
0.8	0.315	0.60	6.33	6.55	6.4428	6.4958	6.4461	6.4954
0.7	0.546	0.55	4.55	4.57	4.5007	4.5584	4.4982	4.5593
0.8	0.351	0.481	3.00	3.03	2.9762	3.0234	2.9766	3.0237
0.8	0.351	0.532	4.00	4.14	4.0642	4.1248	4.0650	4.1251
0.8	0.351	0.548	4.50	4.57	4.4956	4.5586	4.4966	4.5588
0.8	0.351	0.564	5.00	5.07	4.9824	5.0458	4.9837	5.0460
0.8	0.351	0.579	5.50	5.59	5.4975	5.5585	5.4991	5.5586

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