

Abstract Submitted
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Virial Coefficients for the Liquid Argon MICHEAL KORTH, SAE-SUN KIM, Univ of Minn - Morris, UMP TEAM — We begin with a geometric model of hard colliding spheres and calculate probability densities in an iterative sequence of calculations that lead to the pair correlation function. The model is based on a kinetic theory approach developed by Shinomoto [Phys. Lett A, 89, 19 (1982)], to which we added an interatomic potential for argon based on the model from Aziz [J. Chem. Phys. 99, 4518 (1993)]. From values of the pair correlation function at various values of density, we were able to find virial coefficients of liquid argon. The low order coefficients are in good agreement with theoretical hard sphere coefficients [Condens. Matter Phys. 15(2), 23004:1 (2012)], but appropriate data for argon to which these results might be compared is difficult to find.

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