

CORRECTION OF PARAMETERS
OF THE POTENTIAL OF INTERMOLECULAR
INTERACTION WITH REPULSIVE FORCES

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S u m m a r y

A new equation of state is derived by methods of the thermodynamic perturbation theory for describing isothermal compression of dense gases in a high pressure range. The analysis of experimental PVT-data and computer simulation results for a system of 'soft' spheres shows good coincidence. The processing of experimental results gave the values of the exponent of the intermolecular potential that corresponds to repulsive forces. This parameter is a fitting constant of the obtained equation of state. The calculated values of this parameter for specific substances differ from commonly used values of the Lennard - Jones potential.