FREE ENERGY FUNCTIONAL EXPANSION AS THE GENERALIZED APPROACH TO THE EQUATION OF STATE OF DENSE FLUIDS

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S u m m a r y

A version of the thermodynamic perturbation theory based on a scaling transformation of the partition function has been applied to the statistical derivation of the equation of state in a high-pressure region. Two modifications of the equations of state have been obtained on the basis of the free energy functional perturbation series. The comparative analysis of the experimental PVT-data on the isothermal compression for the supercritical fluids of inert gases has been carried out.