

BARODIFFUSION PHENOMENA IN LIQUID SYSTEMS NEAR THEIR CRITICAL POINT

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S u m m a r y

Results of theoretical researches of barodiffusion phenomena in one-component liquids are presented for various regions of approach to the critical point, namely, 1) for the dynamic fluctuation region, where the singular contributions to Onsager kinetic coefficients prevail over the corresponding regular ones ($a_s \gg a_r$ and $b_s \gg b_r$); 2) for the dynamic crossover (transition) region, where $a_s \approx a_r$ and $b_s \approx b_r$; and 3) for the dynamic regular region, where $a_s \ll a_r$ and $b_s \ll b_r$. In addition to the dynamic crossover temperature τ_D , the dynamic crossover pressure Δp_D and density $\Delta \rho_D$ have been introduced, and the corresponding numerical estimations have been made. The peculiarities of critical behaviors of the self-diffusion coefficient D and the barodiffusion ratio k_p have been analyzed.