Effects of anisotropic potentials on the energy gap of Bose gas

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Abstract
We investigate the effect of dipole-dipole and quadrupole-quadrupole interaction of a weakly interacting Bose gas near the transition temperature on the energy spectra of the thermal and condensate parts. We use the two fluid model and mean field approximation. We show that the effects of the condensate part on the shift of energy is greater than the case of contact potential.

Keywords: Bose gas, dipole-dipole interaction, Bose-einstein condensation, energy gap

For the full article refer to the Persian section