

DYNAMICAL PROPERTIES OF A BOSE GAS WITH  
 $\delta$ -LIKE INTERACTION BETWEEN PARTICLES  
AT TEMPERATURES ABOVE THE PHASE  
TRANSITION POINT AND IN THE LIMIT  
OF STRONG INTERPARTICLE REPULSION

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S u m m a r y

Exact equations for the one-particle Green's function and for the irreducible part of the two-particle Green's function of a three-dimensional Bose gas with point-like interaction between particles have been derived in the framework of the functional integral approach. The two-particle spectrum of the system has been analyzed in detail in the simplest approximation, which makes allowance for all two-particle scattering processes. The leading asymptotics of the single-particle spectrum in the long-wave range was shown to remain quadratic. The critical temperature was found in the limit of strong repulsion between particles.