

ON THE QUANTUM-FIELD DESCRIPTION
OF MANY-PARTICLE BOSE SYSTEMS
WITH SPONTANEOUSLY
BROKEN SYMMETRY

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S u m m a r y

A quantum-field approach to studying the Bose systems at finite temperatures and in states with spontaneously broken symmetry, in particular in a superfluid state, is proposed. A generalized model of a self-consistent field (SCF) for spatially inhomogeneous many-particle Bose systems is used as the initial approximation. A perturbation theory has been developed, and a diagram technique for temperature Green's functions (GFs) has been constructed. The Dyson's equations joining the self-energy and vertex functions have been deduced.