## CLASSIFICATION OF THE EQUILIBRIUM STATES OF A QUANTUM FLUID WITH TENSOR ORDER PARAMETER

A.P. Ivashin, M.Yu.  $Kovalevsky^1, N.N.$  Chekanova, L.V.  $Logvinova^1$ 

National Scientific Center
"Kharkiv Institute of Physics and Technology"
(1, Akademichna Str., Kharkiv 61108, Ukraine;
e-mail: mik@kipt.kharkov.ua),

Belgorod State University
(85, Pobedy Str., Belgorod, Russia)

Summary

A classification of the equilibrium states of a quantum fluid with d-pairing is carried out on the basis of the concept of quasiaverages. It is shown that the set of such equilibrium states can be classified in terms of a quantum number relevant to the projection of the orbital momentum of a Cooper pair on the anisotropy direction. The explicit form of three admissible generators of the residual symmetry and the corresponding equilibrium values of the order parameter are found.