

# Crossover from $np$ superfluidity to BEC of deuterons in nuclear matter

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In the framework of Green's function formalism at finite temperatures it is studied superfluidity of symmetrical nuclear matter with  $np$  pairing correlations. It is shown that at low densities equations for the energy gap in the spectrum of quasiparticles and chemical potential allow solutions with negative chemical potential, that corresponds to appearance of BEC of deuterons in low density region of nuclear matter. As a potential of  $NN$  interaction, it is chosen the effective nucleon potential of Ref. [1], developed to reproduce the energy gap in isospin singlet pairing channel, obtained with the use of Paris  $NN$  potential.

1. E. Garrido, P. Sarriguren, E. Moya de Guerra, et al. Physical Review C **63** (2001) 037304.