

# Scientific Report

*for the short visit grant (7 days) to IPN-Orsay*

Title of the research project:

*Structure and thermodynamic properties of inner crust*

The scope of the visit was twofold: to work on a review paper on inner crust properties, written in collaboration with J. Margueron from IPN-Orsay (host institution), and to finish an ongoing work on the structure of the inner crust matter in the Hartree-Fock-Bogoliubov approach..

Thus, during the visit we have performed the following activities: 1) we have set the general structure of a review paper about the pairing effects on inner crust of neutron star. This paper is planned to appear as a chapter in the book "Neutron Star Crust" ( Eds. C. Bertulani and J.Piekarewicz); 2) we have completed a paper , sent for publication to Phys Rev. C at the end of the visit, on the influence of pairing correlations on the structure of inner crust matter. Details about the work we have done on this subject can be seen in the copy of the paper we have submitted to ArXiv (arXiv: 1107.4275).

Dr N. Sandulescu

