
THE EFFECT OF NUCLEAR INTERACTIONS ON THE NEUTRINO EMISSION OF MURCA PROCESS IN THE NEUTRON STAR MATTER

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Neutrino emission processes are studied in the neutron stars matter [1] . The effects of strong neutron-neutron and neutron-proton interactions on the neutron branch of modified Urca process are to be considered by two and three body correlation functions [2] .The central and tensoral correlation functions are extracted from the lowest-order constrained variational (LOCV) method applied to beta stable matter. The ${}^A V_{18}$ potential is employed as the bare two body interaction and we add a phenomenological Urbana UIX three body potential to reproduce the empirical saturation properties of symmetric nuclear matter [3]. We calculated the neutrino mean free path and the neutrino emissivity neutron stars and the effect of three body interactions on these quantities are studied..

REFERENCES

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