

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Magnetic Moment of Neutrino at Finite Temperature and Density SAMINA MASOOD, University of Houston Clear Lake — We recalculate the magnetic moment of neutrinos in the light of observational data and other available information. We show that the magnetic dipole moment of a flavor of neutrinos may be more significant for a particular astronomical system than others, based on the statistical conditions. Interaction of neutrino with the magnetic field is a higher order effect due to the induced magnetic moment of massive neutrino in an astrophysical body with a strong magnetic field. However, the higher order radiative correction contributions may be more than the vacuum values at extremely high temperatures and densities. We show that the neutrinos were not polarized at any time in the early universe but they may be polarized inside the superdense stars with high magnetic field. Polarization component of the form factors always vanishes in electron-positron symmetric background at extremely high temperatures.

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Date submitted: 24 Sep 2014

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