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Deflection of cosmic neutrino by a stellar magnetic field

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Neutrinos in the Standard Model (SM) are considered neutral particles. However, recent experiments showed that the neutrino has infinitesimal electric charge leads to non-zero magnetic moment (μ) with precise constraints on the value, this electromagnetic interaction contribution enhances neutrino properties i.e. Oscillation, Scattering, and Spin. This work discusses the possible neutrino deflection under the influence of Interstellar Magnetic Field (IMF) or at extreme magnetic field condition exists in celestial objects, and for what limit could affect the neutrino flux measured at Earth. The primary results were validated by SN1987A supernovae arrival time data.

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