LASNPA & WONP-NURT 2017



Contribution ID: 68 Type: Parallel Talk

Kicks of magnetized strange quarks stars induced by anisotropic emision of neutrinos

Tuesday 24 October 2017 11:00 (30 minutes)

Beta disintegration is studied in the presence of a magnetic field, which imposes a preferential direction on the emission of neutrinos. It is explored the possibility that this anisotropy in neutrino emission can account for observed Neutron (Quarks) Star velocities (kicks). The conditions under which the anisotropic emission of neutrinos (due to the magnetic field present in the system) causes a "kick" of the compact star are discussed. The matrix element for the beta decay process is computed from first principles taking into account the W boson propagator in presence of a strong magnetic field. The neutrino emissivity is also computed.

Authors: Prof. PEREZ MARTINEZ, Aurora (ICIMAF); Dr MANREZA PARET, Daryel (Facultad de Fisica Universidad de la Habana); Prof. AYALA MERCADO, Alejandro (ICN-UNAM); Dr PICCINELLI BOCHI, Gabriella (FES-UNAM); Dr SANCHEZ, Angel (FAC-UNAM)

Presenter: Prof. PEREZ MARTINEZ, Aurora (ICIMAF) **Session Classification:** Parallel Sessions - HEP

Track Classification: High Energy Physics, Astrophysics and Cosmology (covering Hadron Structure, Phases of Nuclear Matter, QCD, Precision Measurements with Nuclei, Fundamental Interactions and Neutrinos)