XLVII International Symposium on Multiparticle Dynamics (ISMD2017)
September 11-15, 2017, Tlaxcala City, Mexico

Contribution ID : **9** Type : **not specified**

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

Thursday, 14 September 2017 17:35 (0:25)

Content

Beta disintegration is studied in the presence of a magnetic field, which imposes a preferential direction on the emission of neutrinos. We explore the possibility that this anisotropy in neutrino emission can account for observed Pulsar's 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.

Session

Cosmic ray and astroparticle physics

Primary author(s) : Dr. MANREZA, Daryel (ICN-UNAM)

Co-author(s) : Dr. AYALA, Alejandro (Instituto de Ciencias Nucleares, UNAM); Dr. PEREZ MARTINEZ, Aurora (Instituto de Cibernetica, Matematica y Fisica (ICIMAF), La Habana, Cuba); Dr. PICCINELLI BOCHI, Gabriella (Facultad de Estudios Superiores FES Aragón-UNAM, Mexico); Dr. SÁNCHEZ CECILIO, Angel (Facultad de Ciencias, UNAM)

Presenter(s) : Dr. MANREZA, Daryel (ICN-UNAM)

Session Classification : Cosmic ray and astroparticle physics (I)