

MeV scale leptonic force for cosmic neutrino spectrum and muon anomalous magnetic moment

Thursday 1 December 2016 16:10 (20 minutes)

Characteristic patterns of cosmic neutrino spectrum reported by the IceCube Collaboration and long-standing inconsistency between theory and experiment in muon anomalous magnetic moment are simultaneously explained by an extra leptonic force mediated by a gauge field with a mass of the MeV scale. With different assumptions for redshift distribution of cosmic neutrino sources, diffuse neutrino flux is calculated with the scattering between cosmic neutrino and cosmic neutrino back-ground through the new leptonic force. Our analysis sheds light on a relation among lepton physics at the three different scales, PeV, MeV, and eV, and provides possible clues to the distribution of sources of cosmic neutrino and also to neutrino mass spectrum

Summary

Author: Prof. SATO, Joe

Presenter: Prof. SATO, Joe

Session Classification: Particle physics