Phenomenology 2018 Symposium



Contribution ID: 559

Type: parallel talk

Galactic Dark Matter Population as the Source of Neutrino Masses

Tuesday 8 May 2018 15:15 (15 minutes)

We propose a new mechanism for neutrino mass generation. In our model, neutrino mass is due to neutrinos coupling to a long range scalar potential, and this potential is sourced by dark matter. This leads to a neutrino mass that depends on local dark matter densities and a repulsive scalar force between neutrinos and dark matter. One prediction of this model is that relic neutrinos are mostly absent from our galactic neighborhood. Our model could thus be falsified by the detection of relic neutrinos at future proposed experiments, such as PTOLEMY.

Summary

Authors: SULLIVAN, Matthew (University of Kansas); DAVOUDIASL, Hooman (BNL); Dr MOHLABENG, Gopolang (Brookhaven National Lab)

Presenter: SULLIVAN, Matthew (University of Kansas)

Session Classification: Neutrinos II