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Dark connection of muon (g - 2)

The gap between the experimental average and standard model value for the muon anomalous magnetic moment is a direct hint of fields beyond the standard model. In this work, we investigate the contribution of heavy right-handed neutrino for muon (g - 2) in left-right symmetric model. Simultaneously, we checked the dominance(type-I and type-II) patterns for the Majorana type Yukawa coupling matrix and found the effective ones. Our study shows two energy range solutions for right-neutrino, one at low energy (1 Gev) and another at high energy (around 5 TeV to 100 TeV) both giving viable contributions in the gap Δa_{μ} . Study shows that two of the included right-handed neutrinos may be the possible candidates for dark matter as they satisfy the 3.55 keV line spectra.

Track type

Neutrino Physics

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