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Low Energy Anomalies with Z' and Dark Sector HNLs

We attempt to resolve long standing experimental anomalies, namely the MiniBooNE low-energy excess, anomalous magnetic moment of the muon and the excess of K-Long decays observed at KOTO, in the context of a UV complete neutrino mass model that couples to a dark sector. With a GeV scale Z' and MeV scale HNLs, we show that the interplay of vector, neutrino and scalar portals can simultaneously resolve these anomalies, and possibly those observed in older beam dump experiments, e.g. PS-191.

Mini-abstract

Low Energy Experimental Anomalies with Dark Sector HNLs

Experiment/Collaboration

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