

Right-handed neutrino dark matter under the B-L gauge interaction

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Right-handed neutrinos (RHNs) are widely considered as an convincing new particle that can address various issues in the standard model (SM) such as the origin of neutrino mass, the existence of dark matter, and baryon asymmetry of the universe.

On the other hand, the gauge principle plays a key role to understand nature, which is empirically supported by the success of the SM so far.

In the light of this success, the B-L gauge symmetry is one of the most attractive symmetries that offers three RHNs which are the minimal set to successfully address above-mentioned issues.

In this talk, I will discuss various RHN dark matter scenarios under the B-L gauge interaction, and emphasize the sub-electroweak scale Z' case that can be tested by forthcoming beam dump experiments.

Summary

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