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Sterile neutrino portal to Dark Matter: The global U(1)_(B–L) case

Tuesday 6 February 2018 12:05 (15 minutes)

In this talk I will discuss the possibility of the dark matter being of leptonic nature within a local and a global $U(1)_{B-L}$ symmetry breaking scenario where the neutrino masses are generated via the type-I seesaw mechanism. I will argue that the thermal dark matter possibility within a local $U(1)_{B-L}$ seems unlikely due to the strong constraints from lepton and hadron colliders. However, I will show that the global $U(1)_{B-L}$ scenario remains viable. Within this model, I will detail the dark matter production in the early universe, the non-standard sterile neutrino decays, and the possible signals at indirect detection experiments.

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