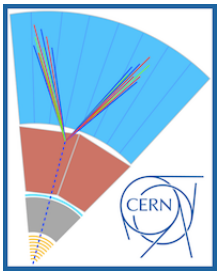

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Long-lived particles in a scotogenic-like model

Thursday, 5 June 2025 12:00 (17 minutes)

Neutrino masses and dark matter (DM) might have a common origin. The scotogenic model can be considered the proto-type model realizing this idea, but many other variants exist. In this talk, I will comment on long-lived particles predicted in a scotogenic-like scenario, containing a triplet scalar. We calculate the relic density and check for constraints from direct detection experiments. The parameter space of the model, allowed by these constraints, contains typically a long-lived or quasi-stable doubly charged scalar, that can be searched for at the LHC. We reinterpret existing searches to derive limits on the masses of the scalars of the model and estimate future sensitivities in the high-luminosity phase of the LHC.

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