



Contribution ID: 130

Type: Oral presentation using Zoom

Quest for Dark Matter at International Linear Collider

Wednesday, 27 October 2021 16:10 (20 minutes)

Future accelerators like ILC or CLIC are with immense possibilities to improve our understanding of nature's fundamental building blocks and to discover new particles, e.g., WIMPs along with other physics phenomena. In scenarios where dark matter does not or feebly couple with quarks, we can consider the dominant couplings of them with charged leptons. We consider the pair production of fermion dark matter (freeze-out) at 1TeV ILC using a class of higher-dimensional leptophilic operators. Depending upon the visible particles to identify the events, we probe mono-photon and mono-Z (with Z decays leptonically and hadronically) channels. We also employ the beam polarisation scheme of ILC and present the 3σ sensitivity at 1000fb^{-1} in terms of the new physics (NP) scale Λ , for the three channels. I will discuss here how these operators perform in the quest for dark matter signature and how constrained the parameter space stand considering different experimental bounds.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: H-2: BSM particle production

Track Classification: Parallel sessions: Topical Groups: Session H: BSM particle production