

Dark showers from sneaky dark matter

Wednesday 22 January 2025 14:20 (15 minutes)

We present a minimal composite dark matter model, based on a $SU(N_d)$ dark sector with n_f dark quarks and a heavy t -channel mediator. For $n_f \geq 4$, the dark flavor symmetry guarantees the stability of a subset of the dark pions, which serve as our dark matter candidates. Their relic abundance is determined by co-scattering or co-annihilation with the remaining dark pions, which are unstable and decay. Due to their degenerate masses, the annihilation cross section is suppressed at low temperatures, thereby avoiding stringent constraints from indirect detection and opening up the GeV mass window. The decaying dark pions are naturally long lived. We obtain limits on the model from semi-visible or emerging jet searches and estimate the reach of future probes.

Are you happy to have the meeting recorded?

Yes

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Session Classification: Extended Talks