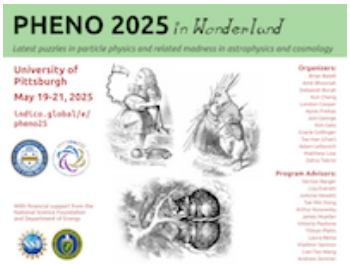

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Dark gauge-mediated supersymmetry breaking

Monday 19 May 2025 15:15 (15 minutes)

We investigate *dark gauge-mediated supersymmetry breaking* with an unbroken $U(1)_D$ symmetry and a massless dark photon. Messengers charged under both Standard Model and dark gauge groups generate new soft SUSY-breaking terms via gauge kinetic mixing. Large mixing significantly alters superpartner spectra compared to standard GMSB, reduces the μ parameter, and predicts a relatively light Higgsino detectable at the LHC. Simple messenger scenarios yield a very light bino-dark photino state observable in exotic Higgs decays at future colliders. The cosmological and phenomenological effects of stable, fractionally charged messenger states are also explored.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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