

Phenomenology 2023 Symposium



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Collider Signatures of Near-Continuum Dark Matter

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I will describe the collider phenomenology of near-continuum dark matter, a model that gives rise to a gapped tower of Kaluza-Klein (KK) states. The model is coupled to the Standard Model via a Z-portal coupling, and the unique experimental signatures of this model include a cascade decay with large displaced vertices, a characteristic fermion energy spectrum, and more, all of which will be shown at a benchmark point of a 500 GeV lepton collider. I will also comment on the phenomenological aspects of the continuum limit of this model, where the dark matter spectrum approaches a gapped continuum of KK states.

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