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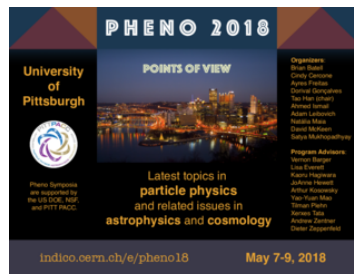
Improving limits on a simplified model of dark matter

Tuesday 8 May 2018 14:30 (15 minutes)

We consider a simplified model of dark matter, taken to be a Majorana fermion, coupling to quarks via colored scalar mediators. The spin independent dark matter-nucleon cross-section vanishes at tree level. In order to calculate direct detection constraints, we calculate, the 1-loop leading order contributions to the spin independent cross-section, also performing RG evolution of the wilson coefficients. Further, we calculate LHC cross-sections at NLO precision and recast LHC searches to determine collider constraints on this model.

Summary

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