



Contribution ID: 350

Type: parallel talk

Monojet searches for momentum-dependent dark matter interactions

Monday, 8 May 2017 14:45 (15 minutes)

We consider minimal dark matter scenarios featuring momentum-dependent couplings of the dark sector to the Standard Model. We derive constraints from existing LHC searches in the monojet channel, estimate the future LHC sensitivity for an integrated luminosity of 300 fb^{-1} , and compare with models exhibiting conventional momentum-independent interactions with the dark sector. In addition to being well motivated by (composite) pseudo-Goldstone dark matter scenarios, momentum-dependent couplings are interesting as they weaken direct detection constraints. For a specific dark matter mass, the LHC turns out to be sensitive to smaller signal cross-sections in the momentum-dependent case, by virtue of the harder jet transverse-momentum distribution.

Summary

Primary author: Dr SENGUPTA, dipan (Michigan State University)

Presenter: Dr SENGUPTA, dipan (Michigan State University)

Session Classification: DM I