

# Fermionic Minimal Dark Matter and Friends

*Wednesday, September 14, 2016 3:05 PM (15 minutes)*

We consider a natural extension of the Minimal Dark Matter scenario where Dirac and Majorana  $SU(2)_L$  multiplets couple together via the Higgs. We classify and study in a systematic way all the few possible models consistent with the absence of Landau poles up to very high scale, including the results for Direct Detection, and the Sommerfeld-enhanced annihilation. We demonstrate that, at freeze-out, a well educated estimation of the size of the Sommerfeld corrections can be done in the unbroken  $SU(2)_L$  limit. This is shown explicitly for the cases not present in previous works on the subject.

## Summary

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**Session Classification:** Poster Session (coffee at 15:00) & CERN Visit

**Track Classification:** Dark matter (indirect detection)