

BSM² - Beyond the Standard Model BrainStorming Meeting: Particle Physics and Cosmology interface



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Direct detection of pNG dark matter in the S2HDM

Pseudo-Nambu-Goldstone (pNG) dark matter models are popular for having a rich phenomenology and for being compatible with many existing observations. These models have the distinct feature of having negligible DM direct detection cross section at leading order, being that the first relevant contribution to the cross section comes from the one-loop electroweak corrections. These one-loop corrected cross sections can be of the order of present experimental limits and even more so of future DM detection experiments. In this presentation, we look into the direct detection of pNG DM in the context of the S2HDM and we explore the possibility of current and future direct detection experiments being able to probe the parameter space of this model.

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