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Direct detection of non-galactic dark matter

Thursday 29 September 2022 18:00 (15 minutes)

In this talk, I will discuss the impact of non-galactic dark matter particles in direct detection searches. Firstly, I will emphasize its relevance when the dark matter is light, and scatters elastically off a nucleus or an electron. Secondly, I will discuss the importance of the non-galactic flux when the dark matter scatters inelastically off a nucleus or an electron. For light dark matter, the non-galactic components enhance the sensitivity of experiments, allowing to probe some thermal production mechanisms. For heavy and inelastic dark matter, the non-galactic components allow to test larger mass splittings between the two dark matter states, further constraining the parameter space of selected models, for example of Higgsino dark matter.

Summary

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