

Simplified models vs EFTs for DM searches at the LHC

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As results from Run II of the LHC continue to be released, it is important to evaluate the ways in which we study DM at colliders. EFTs can be a useful tool to constrain DM in a semi-model-independent way, but it is now clear that this approach has limitations.

EFTs are now supplemented by simplified models of dark matter, and it is important to approach these models in a logical and consistent way so that we can learn as much as possible about the dark sector. Simplified models are designed to be simple so that the full parameter space can be explored. At the same time, they are designed to still provide much of the same phenomenology as full models, so that we don't miss any potential signals. I will talk about some recent developments in the usage of simplified models, and some of the challenges and techniques we use to achieve these sometimes contradictory goals.

Summary

Primary author: JACQUES, Thomas David (Scuola Int. Superiore di Studi Avanzati (IT))

Presenter: JACQUES, Thomas David (Scuola Int. Superiore di Studi Avanzati (IT))

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