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Dark matter at future colliders, astrophysics and non-collider experiments

Wednesday 25 November 2020 11:26 (3 minutes)

One overarching objective of science is to further our understanding of the Universe and its composition. The nature of dark matter (DM), corresponding to 85% of the matter currently present in the universe is still unknown. The presence and distribution of DM is detected through its gravitational interactions by observatories and experiments, while the interactions of DM with ordinary matter particles can be observed indirectly and directly in astrophysics experiments. These interactions also allow for DM to be produced in collisions of ordinary matter and observed in experiments at colliders and at particle accelerators, and provide complementary information about dark matter - ordinary matter interactions. Data from this wealth of astrophysics and particle physics experiments, combined with theoretical models and interpretations, will shed new light on dark matter.
This contribution will specifically focus on the synergies between present and future collider experiments (such as LHC and the Future Circular Collider that could be built at CERN), beyond-collider accelerator experiments, and astrophysics experiments.

Abstract Track

Flash talk, cross-cutting collaboration

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