

# Cross-cutting initiatives in dark matter related to the European Strategy and the Snowmass process

Wednesday 25 November 2020 11:23 (3 minutes)

In this contribution, I will outline three ongoing efforts revolving around dark matter complementarity, in the spirit of fostering cross-talk and engagement between different communities.

The first topic of this contribution is the initiative for Dark Matter in Europe and Beyond. It aims to create a permanent and common platform to exploit synergies and complementarities in dark matter searches across different communities, as a broad and common approach to dark matter research is necessary given the nature of this challenge. In this short contribution, we discuss the origin of this initiative and its possible future evolution, as well as its plans to build an online meta-repository for dark matter resources.

The second topic of this contribution is the ESCAPE Dark Matter Test Science Project, being developed in the context of the ESCAPE project (<https://projectescape.eu>). It has the aim to find commonalities between different communities and experiments in the foundational tools needed to produce those results, in particular in terms of data management, data analysis and computing. As part of this TSP, we will convert the existing experimental data and software procedures to sustainable analysis pipelines as a prototype for selected direct detection, indirect detection, and collider experiments involved in ESCAPE. The goal of this TSP is to aid the development of the European Open Science Cloud to store, distribute and provide data access to the dark matter scientific community, also making this data searchable, while respecting experiment Open Data Policies.

The third topic of this contribution is taking shape within the ongoing Snowmass process which will lead to the particle physics prioritisation inputs at the end of 2020. Since dark matter is a science driver that crosses multiple Snowmass Frontiers, a complementary approach that combines theory, experiment, observation, instrumentation, and computation is necessary to make progress in this domain. This effort aims to present specific case studies and milestones that emphasize that complementarity between these various fields of research must receive attention in the Snowmass process and by the DM community.

*Note: I am also happy if this becomes a flash talk and I'll pick one of the topics, in case there isn't enough time for everyone's presentations and we have to privilege early career researcher presentation.*

## Abstract Track

Cross-field collaborative initiatives

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**Session Classification:** Wednesday morning