

Recent progress in sub-GeV dark matter detection

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In recent years, the search for dark matter with sub-GeV masses has been targeted by a variety of novel experiments with unprecedented sensitivity to low energy depositions.

In this talk, we review the theoretical motivations behind these experiments and the challenges that need to be overcome in order to make a leap forward in detection reach.

In particular, we discuss new explanations for the excess background events that are being observed at several experiments, promising strategies to mitigate them, and novel ideas to significantly lower the energy thresholds required for detection. We argue that the combination of these novel developments could dramatically enhance the potential to discover dark matter with masses as low as fractions of an eV.

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