

Chasing the phantom: Exploring light dark matter with Forward Physics Facility.

Thursday, 23 November 2023 09:15 (60)

Light dark matter (DM) produced thermally in the early Universe is one of the main targets in dark matter searches nowadays. Probing light DM requires appropriate detection techniques. It has been recently proposed that the forward kinematic region of the LHC can be utilized for this search. The FORward Experiment Sensitivity Estimator, or FORESEE, simulation package has been introduced to study the sensitivity reach of any forward physics detector in the search for light long-lived particles or DM species. In my presentation, I will discuss the implementation of various models of light dark matter within FORESEE, providing insights into how experiments at the Forward Physics Facility at CERN can probe these models.

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