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Boosted dark matter and their collinear splitting effects at dark matter detection experiments

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I will show the collinear splitting effects of boosted dark matter at detection experiments based on simplified models. In particular, based on the dark photon model, the observation of Cosmic ray induced boosted DM at neutrino detectors with high energy thresholds will be modified by the initial state radiation(DM PDF). In addition, based on two-component DM models, the dark parton showering effects for DM indirect detection, where the heavier DM component which dominates the relic density annihilates into boosted lighter species.

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