A Detectable Antihelium Flux from Dark Matter Annihilation

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Summary: We obtain striking new results on the antihelium flux from dark matter annihilation. Since the AMS-02 experiment has tentatively detected a handful of antihelium events this channel is of particular interest. Our analysis - for the first time - includes the displaced antihelium production through intermediate bottom baryon. We show that this production mode enhances the antihelium signal from dark matter by up to a factor of 100 and potentially explains the antihelium events at AMS-02.

