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Where do AMS-02 anti-helium events come from?

Friday, 12 July 2019 12:30 (20 minutes)

In this talk, I will discuss consequences of the potential detection of anti-helium-3 and -4 events by AMS-02. After showing that spallation from primary hydrogen and helium nuclei onto the ISM cannot account for the measured fluxes, I will argue that dark matter annihilation or decay face similar difficulties in explaining these events. I will then entertain the possibility that these events originate from anti-matter-dominated regions in the form of anti-clouds or anti-stars. I will finally discuss constraints due to annihilation onto normal matter that apply on such scenario.

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