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Production of cosmic-ray antinuclei in the Galaxy and background for dark matter searches

Antimatter nuclei in cosmic rays (CRs) represent a promising tool for the indirect search of dark-matter particles in the Galaxy.

At this conference, we report updated calculations for the astrophysical production of CR antiproton, antideuteron, and antihelium nuclei using updated cross-section formulae and new astrophysical constraints inferred from the recent AMS-02 data on CR protons and nuclei. Using these constraints, we also compute upper limits for the flux of CR antinuclei produced and diffusively-shock-accelerate inside Galactic sources.

Experimental Collaboration

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