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Antiprotons as dark matter probes

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Weakly interacting and massive particles (WIMP) have been suggested as plausible candidates to the astronomical dark matter (DM). Should these putative species exist, they would continuously annihilate within the Milky Way halo and yield rare antimatter particles such as antiprotons. The latter are already manufactured in the Galactic disc where high-energy cosmic ray protons and helium nuclei collide on the interstellar gas.

I will review how well we understand that astrophysical component which is the natural background to a DM antiproton signal. I will also present the current and near-future experimental situation. I will finally discuss what are the theoretical expectations for observing a distortion in the antiproton spectrum at the Earth should WIMPs float around, and what limits on their properties can already be drawn from the current measurements.

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