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Impact of Galactic subhalos on indirect dark matter searches with cosmic-ray antiprotons

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The AMS-02 experiment has recently released a new measurement of the cosmic-ray antiproton spectrum. Assuming that cold dark matter (CDM) is made of self-annihilating particles, the AMS-02 data can be used to constrain the annihilation cross section. It is known however that CDM structures itself on scales much smaller than typical galaxies. This structuring translates into a very large population of subhalos which must impact predictions for indirect searches. I will present a dynamically constrained and consistent semi-analytic model of Galactic subhalos (based on arXiv:1610.02233) and discuss its impact on current constraints (or hot spots) inferred from the AMS-02 antiproton data.

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