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Improved constraints on annihilating dark matter from cosmic-ray antiprotons

Wednesday, 14 September 2016 17:45 (15 minutes)

Local measurements of Galactic cosmic-ray antiprotons are known to provide constraints on the properties of annihilating cold dark matter (CDM). It is also known that CDM candidates generically lead to the structuring of matter on scales much smaller than typical galaxies. This clustering translates into a very large population of subhalos in galaxies, which induces an enhancement of the average annihilation rate with respect to a smooth-halo assumption. Taking these subhalos into account, and using measurements by the PAMELA and AMS-02 experiments, we derive new stringent constraints on annihilating CDM candidates.

Summary

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Session Classification: Poster Session (coffee at 15:00) & CERN Visit

Track Classification: Dark matter (indirect detection)