Improved constraints on annihilating dark matter from cosmic-ray antiprotons

Monday 28 November 2016 15:20 (20 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

Author:STREF, Martin (Montpellier University)Presenter:STREF, Martin (Montpellier University)Session Classification:Dark matter