

Fundamental physics in the cosmos: The early, the large and the dark Universe



DESY THEORY WORKSHOP
26 - 29 September 2017

**Fundamental physics in the cosmos:
The early, the large and the dark Universe**

DESY Hamburg, Germany



Contribution ID: 23

Type: **not specified**

Dark matter constraints from antiprotons in the light of AMS-02

Wednesday 27 September 2017 16:05 (17 minutes)

I will discuss the implication for dark matter (DM) indirect searches of the recent precise measurements of cosmic-ray (CR) antiprotons from AMS-02 .

With respect to previous works we use a new updated CR propagation model consistent with the AMS-02 data.

Furthermore, we fit at the same time, in a self-consistent way, both DM and the propagation parameters.

We find a significant indication of a DM signal for DM masses near 80 GeV, which, interestingly, is also compatible with the similar excess present in the Galactic center in gamma rays. Possible systematic effects will be also discussed.

In terms of DM exclusion limits, we find stringent constraints a factor of 4-5 stronger than limits from gamma-ray observations of dwarf galaxies.

Primary author: Dr CUOCO, Alessandro (RWTH Aachen TTK)

Presenter: Dr CUOCO, Alessandro (RWTH Aachen TTK)

Session Classification: Parallel Session: Cosmology & Astroparticle Physics - Dark Matter

Track Classification: Cosmology & Astroparticle Physics