Contribution ID: **6** Type: **Contributed talk**

AMS results after 5 years of data taking on the International Space Station

Monday, 25 July 2016 15:45 (15 minutes)

Summary

The Alpha Magnetic Spectrometer (AMS-02) is a particle physics experiment designed to study origin and nature of Galactic Cosmic Rays (CRs) up to TeV energies from space. With its high sensitivity, long exposure and excellent identification capabilities, AMS is conducting a mission of fundamental physics research in space. In particular, the presence of a magnetic field is a unique opportunity to study the anti-particle component of CRs: positrons, anti-protons, anti-deuterium, anti-helium. To date, more than 60 billion CR events have been collected by AMS, setting strong constraints on the generation and propagation of CRs through the galaxy. After reviewing the propagation of "standard" CRs, new results on lepton ond on anti-proton fluxes will be discussed, as well as their implication in terms of Dark Matter searches. Prospects on future data at TeV energies and forthcoming measurements on rare species, like anti-deuterium and anti-helium, crucial in investigating both the content of Dark Matter and the presence of anti-matter in the Universe, will also be presented.

Based on (arXiv number)

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Session Classification: Indirect Dark Matter Detection

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