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Search for Dark Matter in Cosmic Rays with the AMS-02 space spectrometer.

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The growing observational evidence for Dark Matter from astrophysical observations gives a solid base to the Cosmological Standard Model. On the other side, the Standard Model of particles and interactions has no answer on DM nature. Experimental evidence of DM from underground experiments is under scrutiny while recent results from space experiments have no clear interpretation.

The cosmic rays spectrometer AMS-02 will be placed on the ISS Space Station on 27 February 2011 and should take data for at least 10 years. The performances of the experimental apparatus and the perspectives opened by this new powerful observational instrument will be briefly reviewed. In particular a complete exploration of the positron and electron spectra with high statistical significance beyond the PAMELA results will hopefully clarify the quest for Dark Matter evidence in cosmic rays.

Primary author: Prof. PALMONARI, Federico (INFN and University, Bologna)

Presenter: Prof. PALMONARI, Federico (INFN and University, Bologna)

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