

ASTROPHYSICS SEMINAR

Friday, 27 November 2009 at 11:00

Cosmic rays from space based observatories: history, results and perspectives of the PAMELA mission

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Abstract. A systematic research plan on cosmic rays was elaborated by NASA at the beginning of the eighties as the cosmic rays (CR) began to be considered a fundamental tool for astrophysics and particle physics. Main programs of the plan were a magnetic facility dedicated to CR experiments on board of the Freedom Space Station (FSS) and an explorer (ACE) for the observation of CR far away from the influence of the terrestrial magnetic field. The close of the FSS program in 1991 and the long lasting shortage of means of transportation to orbit delayed or halted the space based part of the plan. In last two decades the CR observation program in space could continue with the ACE explorer and by balloon borne experiments. Lately, part of the original program in space could be recovered by the high energy gamma-ray missions AGILE and Fermi, and by the observation of the high energy CRs (in particular the antiparticle component) with the on-going PAMELA mission and the preparation of the AMS-2 mission. The preliminary results of the PAMELA mission are discussed, and the near and far future perspectives considered.

Additional Information

The seminars are given in the ISDC "Pavillon" building
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