



**Laboratório de Instrumentação e  
Física Experimental de Partículas**

## **Seminário\***

Thursday, 6 April 2017

11:30 to 12:30

### ***The AMS experiment in space: a unique mission of fundamental physics research, an exceptional monitor of solar activity***

**By Nicola Tomassetti  
(Perugia University and INFN)**

The Alpha Magnetic Spectrometer (AMS-02) is a high-energy-physics experiment designed to study the nature of dark-matter particles and the origin of cosmic rays (CR) in the Galaxy. Operating in the International Space Station since May 2011, AMS-02 has now collected a large wealth of data on energy spectra, composition, arrival directions, and time -variation of charged CRs between GeV and TeV energies. The main physics results from AMS-02 will be presented at this seminar, with major focus on the recent measurements. I will discuss the importance of high-energy ( $\sim$ TeV) data in understanding the astrophysical processes of CR acceleration and propagation in the Galaxy. Then I will discuss the role of low-energy ( $\sim$ GeV) data in the investigation of CR transport in the Heliosphere and the interaction of these particles with the Sun's magnetic field.

**\* Place: LIP Seminar Room**

**LIP (Laboratório de Instrumentação e Física Experimental de Partículas)**

**Av. Elias Garcia, 14, 1º**