



## Status of the AMS-02 detector after one year of operation on the International Space Station

*Saturday 7 July 2012 17:30 (20 minutes)*

The Alpha Magnetic Spectrometer AMS-02 has been installed in May 19th 2011 on the International Space Station where it will detect cosmic rays for the next decades. AMS-02 with its accurate measurements up to the TeV scale will contribute to our knowledge of the Universe providing the most sensitive search for the existence of primordial anti matter and indirect search for dark matter.

Nine layers of silicon micro-strip constitute the core of the spectrometer, allowing the simultaneous measurement of the sign and charge of impinging particles and reconstructing their rigidity up to the TV. The 3D imaging calorimeter, with a depth of 17 radiation lengths, and the TRD detector provide an accurate measurement of the electron and positron components, rejecting the protons background. Velocity and charge measurements are performed by the scintillator planes of the Time of Flight system and by the Ring Imaging Cherenkov detector. During the first year in Space several billion events have been recorded: the AMS-02 flight operations, performance and perspective for physics measurements will be reported.

**Author:** Prof. BINDI, Veronica (University of Hawaii at Manoa (US))

**Presenter:** Prof. BINDI, Veronica (University of Hawaii at Manoa (US))

**Session Classification:** Room 216 - Particle Astrophysics and Cosmology -TR11

**Track Classification:** Track 11. Particle Astrophysics and Cosmology