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The Alpha Magnetic Spectrometer on the International Space Station

The Alpha Magnetic Spectrometer (AMS) is a particle physics detector designed to measure charged cosmic rays spectra up to TV region, with high energy photon detection capability up to few hundred GeV. With the large acceptance, the long duration (3 years) and the state of the art particle identification techniques, AMS will provide the most sensitive search for the existence of anti matter nuclei and for the origin of dark matter.

The detector is being constructed with an eight layers Silicon Tracker inside a large superconducting magnet, providing a $\sim 0.8 \text{ Tm}^2$ bending power and an acceptance of $\sim 0.5 \text{ m}^2 \text{ sr}$. A Transition Radiation Detector and a 3D Electromagnetic Calorimeter allow for electron, positron and photon identification, while independent velocity measurements are performed by a Time of Flight scintillating system and a Ring Image Cerenkov detector. This contribution will describe the current status of the overall detector construction and its expected performances

collaboration :

AMS Collaboration

Primary authors : Prof. BERTUCCI, Bruna (University and INFN Perugia)

Co-authors :

Presenter : Prof. BERTUCCI, Bruna (University and INFN Perugia)

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