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The Alpha Magnetic Spectrometer on the International Space Station

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Abstract content

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

If this papers is presented for a collaboration, please specify the collaboration

AMS Collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olive, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 4 (HE part 1), pages 821-824

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