The Alpha Magnetic Spectrometer on the International Space Station

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The Alpha Magnetic Spectrometer (AMS) is a large acceptance high resolution TeV magnetic spectrometer installed on the International Space Station on May 19, 2011. AMS will collect data on the Space Station for the next twenty years. The physics goals are:

- Precision measurements of charge cosmic rays from 100 MeV to 1 TeV to 1% accuracy over the entire solar cycle.
- Search for the origin of dark matter up to the dark matter mass of 1 TeV.
- Search for the existence of heavy antimatter nucleus to the edge of the observable universe.
- Precision study of gamma rays up to 1 TeV.
- Search for new form of matter made with three kind of quarks - so called strangelets.

But, most importantly, the detector is designed to explore with high precision a totally unknown region in experimental physics.