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ISHEP 2017

AMS-02

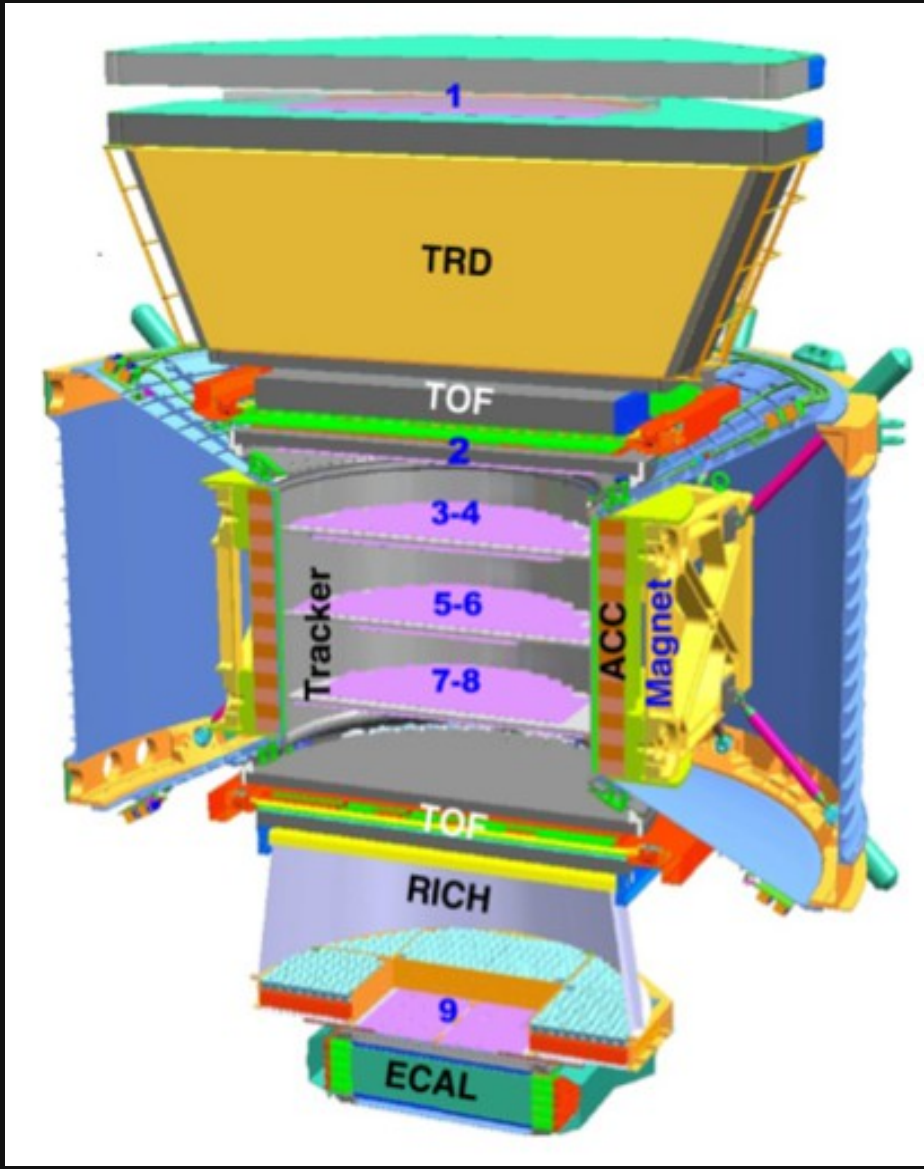
- Is a particle physics detector installed on the ISS

The main goals are:

- Search for evidence of dark matter
- Primordial antimatter
- CR spectra
- Identification of local sources

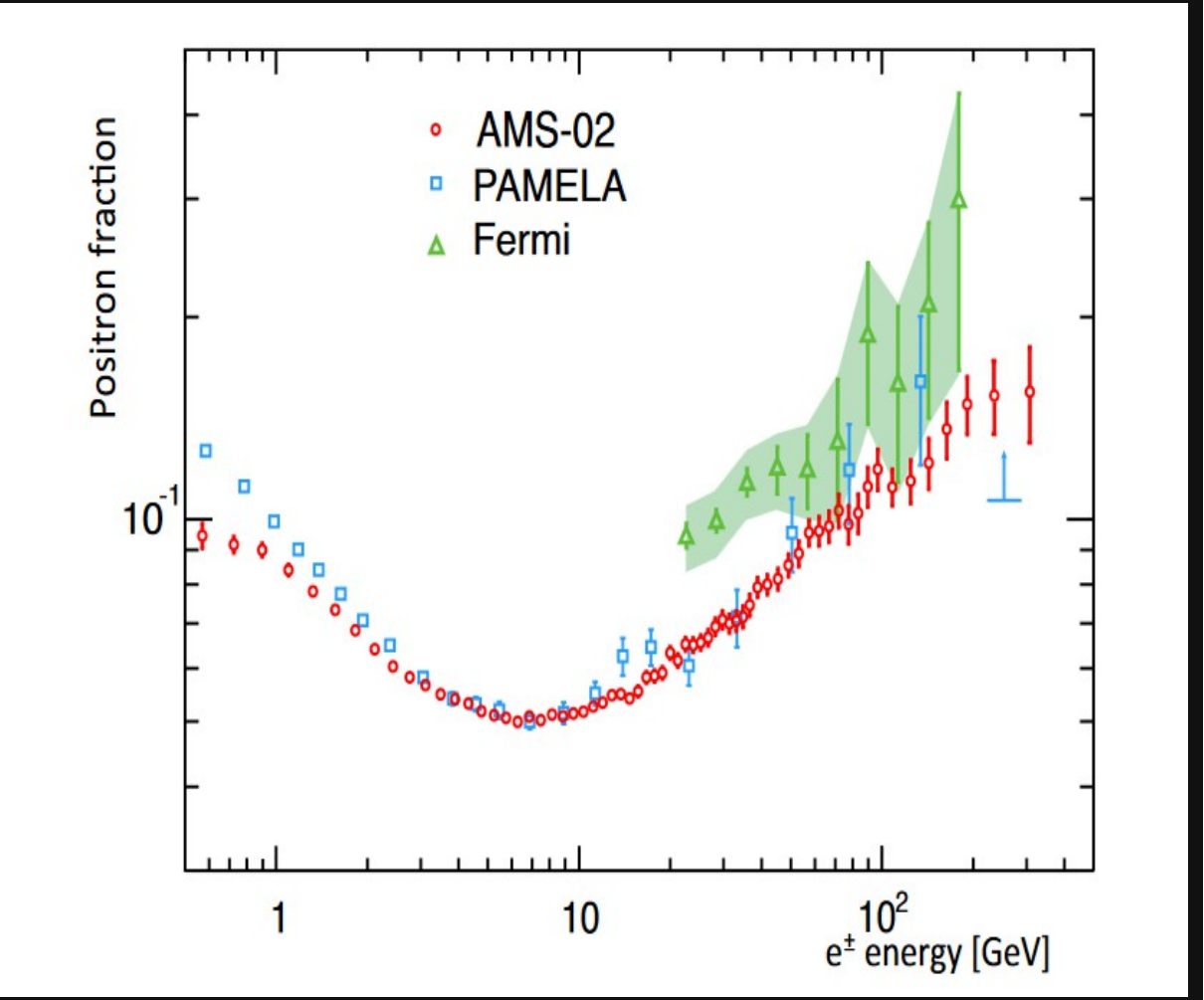
Detector

- Permanent magnet: 0,15T
- Silicon tracker
- Measurable rigidity up to 2TV
- TOF
- RICH
- TRD
- ECAL



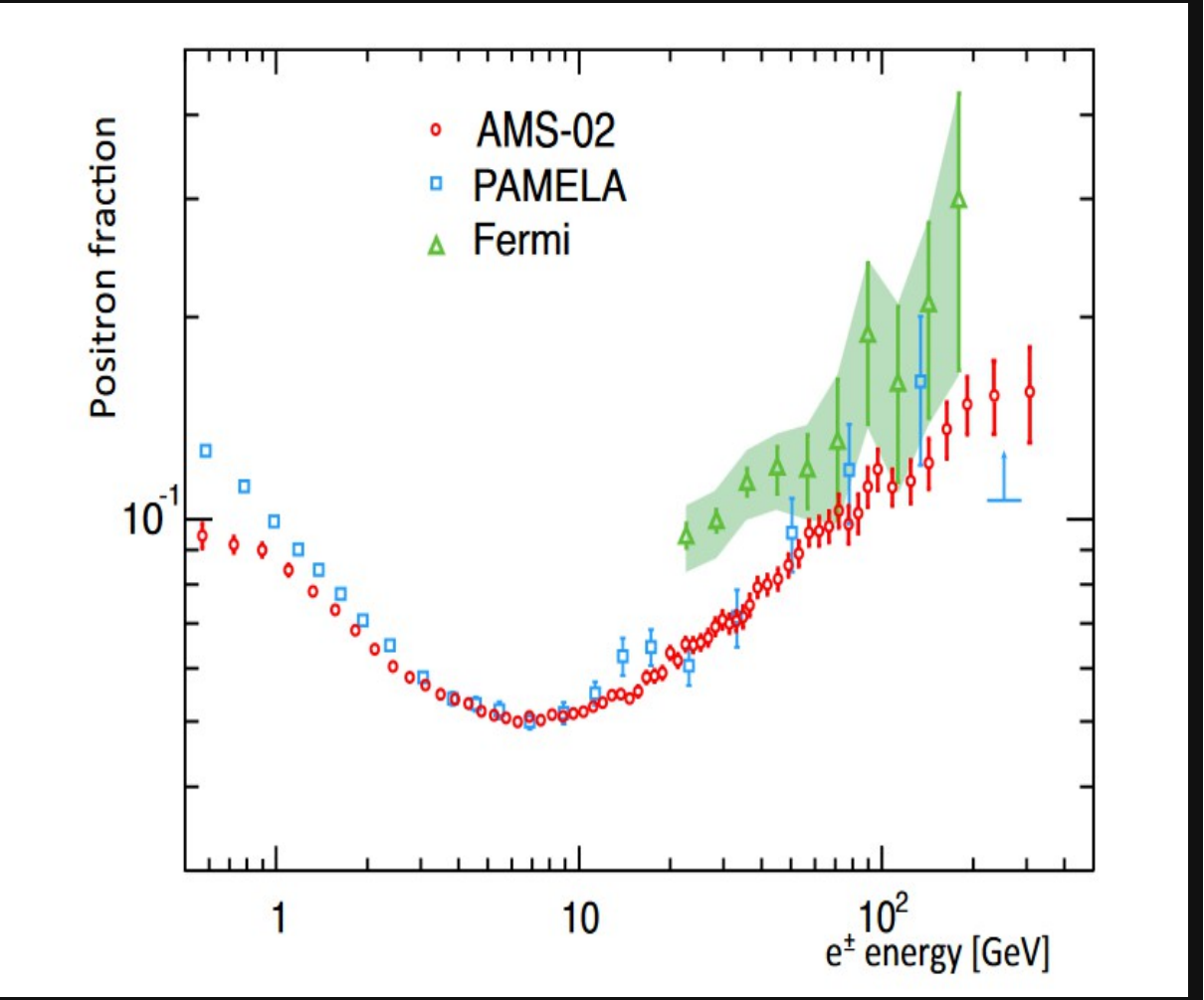
The e^+ e^- ratio

- <10 GeV, a decrease in the positron fraction, as expected by the propagation models of CR in the ISM



The e^+ e^- ratio

- increase in the positron fraction from 10 to 250Gev and is not consistant with the secondary production of positrons

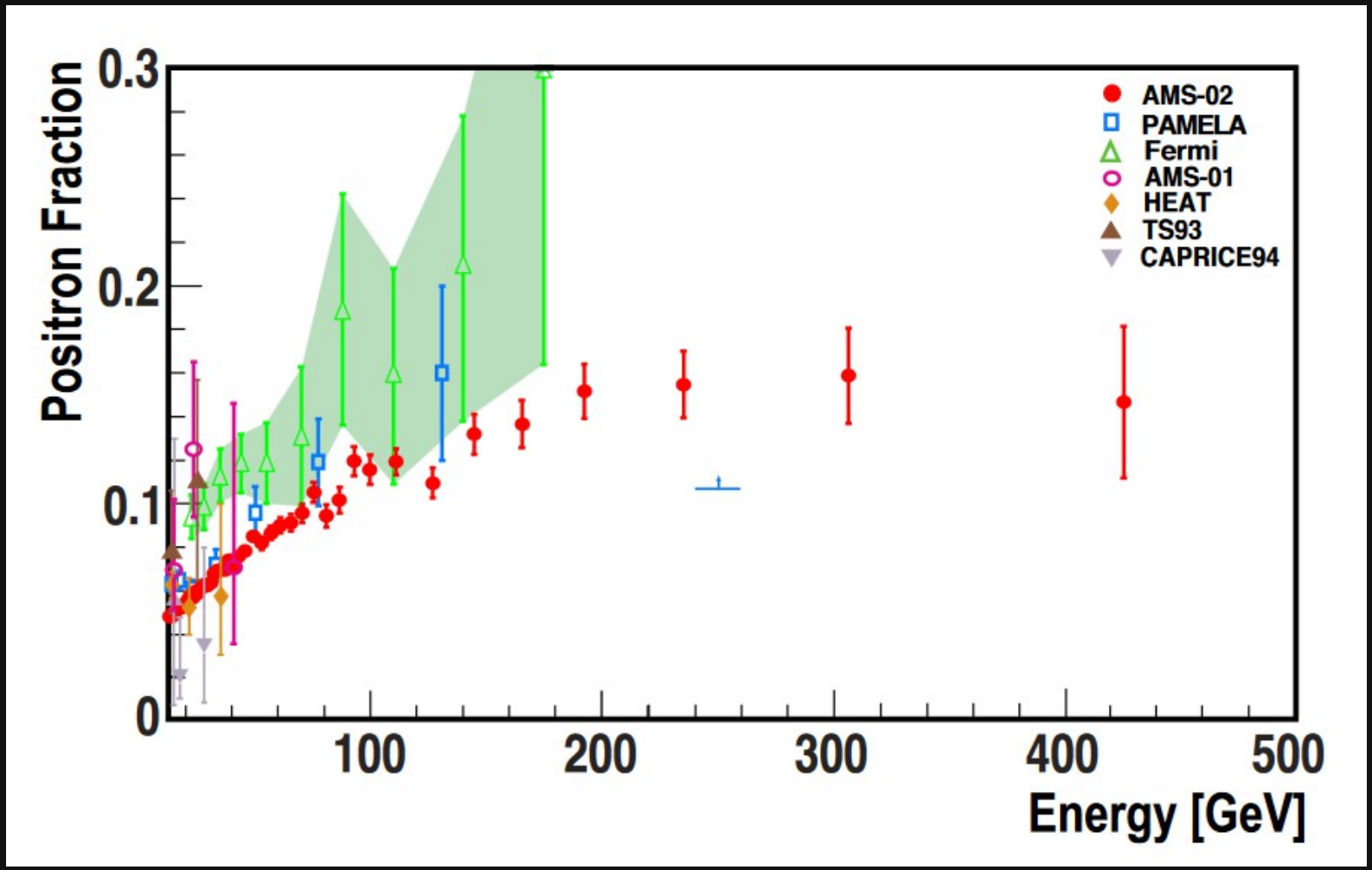


- The flux of electrons and positrons was found to be isotropy

Two main hypothesis were developed

- the first involved a pulsar as source of positrons

- in the second the production of positrons is due to dark matter collision


Positron Fraction
0.3
0.2
0.1
0
100
200
300
400
500
Energy [GeV]
AMS-02
PAMELA
Fermi
AMS-01
HEAT
TS93
CAPRICE94