Electron + positron flux up to 2 TeV through a Sapphire window

- Circulation of Nitrogen with an accuracy of
- To avoid condensation and
- Temperature regulation

PEBS: Positron Electron Balloon Spectrometer

- Epoxy layer = 250 μm
- Active area = 1.4 x 1.4 mm
- Same technology as the commercial S10362-11-025C MPPC

First flight scheduled in summer 2012, 20 day flight from Kiruna, Sweden  (PEBS 1) be able to measure the matter values, PAMELA measures an...

Recent data on the positron and electron fluxes have raised considerable interest. Compared to the expected GALPROP data (black diamonds) are also shown. The different curves (green and yellow) show expectations from different additional electron and positron source. AMS-1 data (electrons + positrons) from a single 20 days flight of... The expected statistics for the all electron spectrum...

**Photon detection**

- Efficiency (PDE)
- Good response to MIPs

**Scintillating Fiber Tracker**

- Embedded wavelength shifting fibers with MPPC readout
- Resolution of

Each module consists of two 5-layers ribbons of 240... 2X12 layers 6 mm straw tubes / 20 mm fleece radiator sandwich

ECAL prototype: details

- The electrons are selected using
- Further background is removed using tracker information. For each...
- The electrons are selected using
- The electrons are selected using

Maximum momentum band = +/- 10%

- Beam polarity can be selected: beam content [e+, p, π]
- Beam content [e+, p, π]
- Beam content [e+, p, π]

The PEBS Electromagnetic Calorimeter

- Prototype picture
- Testbeam at CERN

In 2010, a... Beam line in the CERN PS East Area

**Prototype**

- Beam line in the CERN PS East Area
- Beam line in the CERN PS East Area
- Beam line in the CERN PS East Area

Using additional lead layers in front of the ECAL prototype, the full shower profile can be sampled. Each measurement... Let’s note that, for each set of three points, the third one is systematically lower than expected. This is due to reflections on the next Pb absorber layer, enhancing the signal for all but the last scintillating layer.

In order to test the feasibility of the PEBS ECAL, a small scale prototype has been built. It features... Čerenkov detectors

The bars are good response to MIPs at non-attenuated side. The bars are good response to MIPs at non-attenuated side.

The prototype was used to perform different charge dependent solar modulation models.

In 2010, a... Beam line in the CERN PS East Area

**Prototype**

- Prototype picture
- Prototype picture
- Prototype picture

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