



Solar Modulation of Primary Cosmic Ray Electron (Positron) Flux

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PMO

The DAMPE Detector

Motivation:

electron, proton, nuclei spectra measurement
indirect search of Dark Matter
Galaxy gamma ray source

Launch time : 2015.12.17

Altitude: 500 km

Orbit type: solar-synchronous

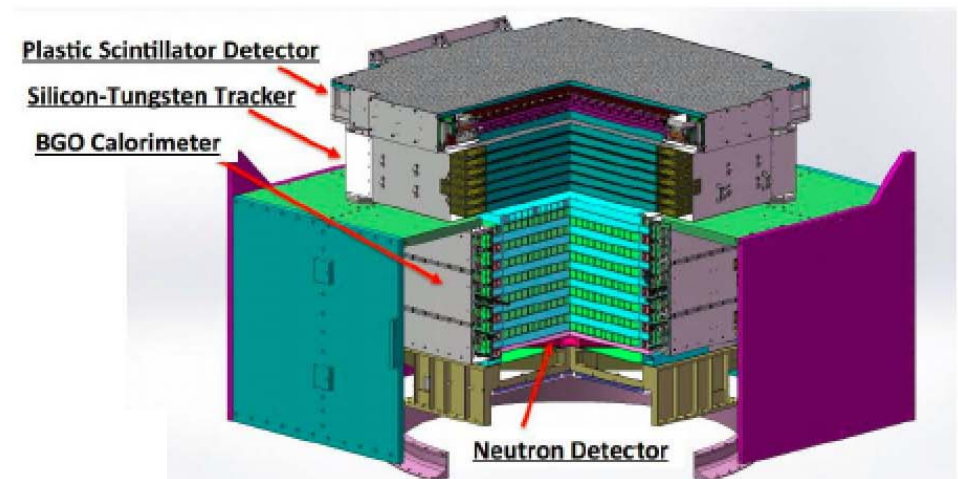
Orbit period: ~95 min

PSD: Charge measurement, Anti-coincidence

STK: Track reconstruction, Charge measurement

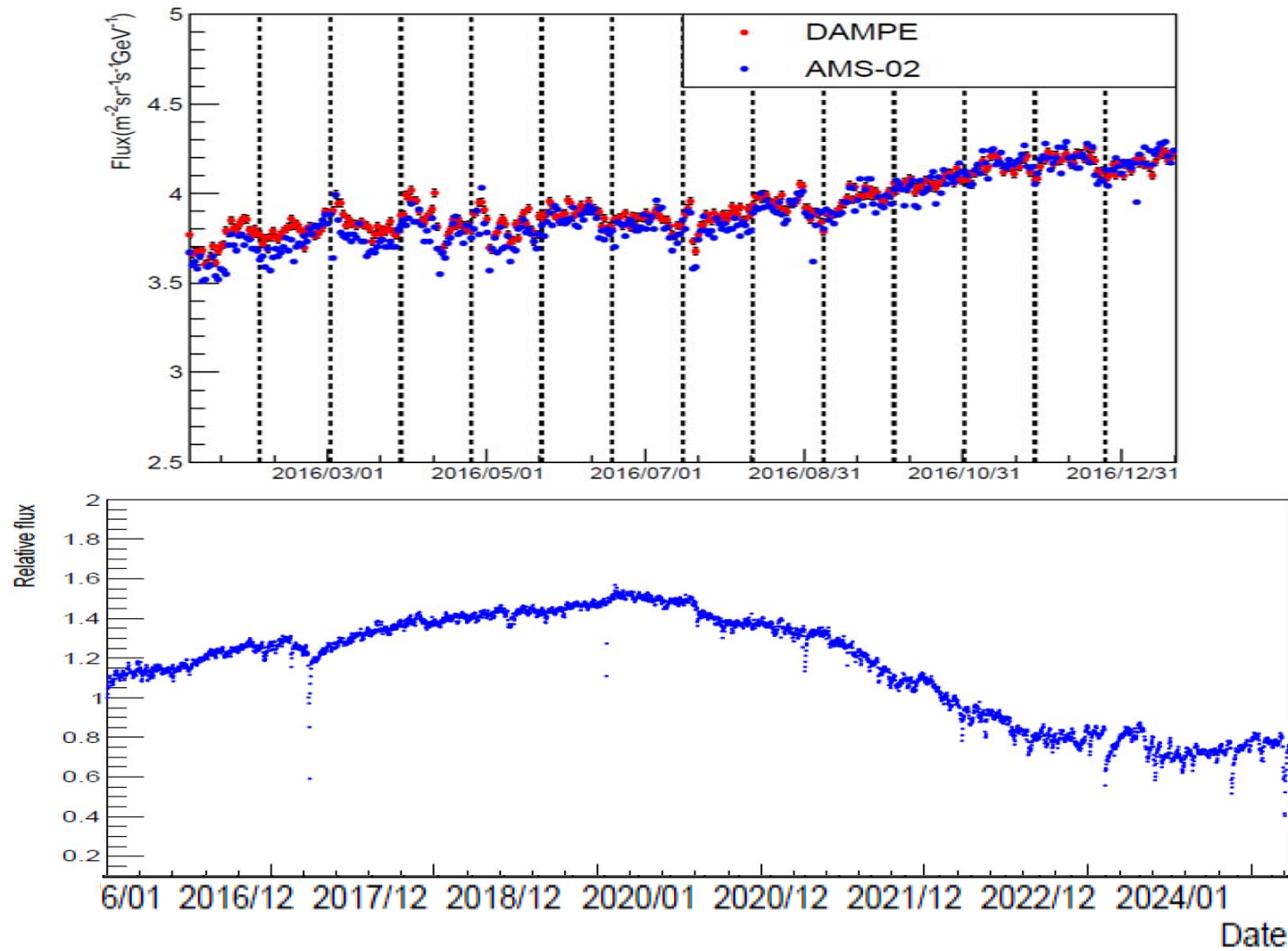
BGO: Energy measurement, E-p separation, Trigger

NUD: E-p separation



Result

AMS-02 result (PRL. 130. 161001)



Summary

- The DAMPE detector operates in good state since launch, the trigger efficiency keeps in a stable level.
- The primary CR electron (positron) measurement result shows a time structure of 27-day, which is related to the rotation of sun.
- The measured flux shows an anti-correlation with sunspot number, verifying the flux is modulated by solar activity.