

Solar Energetic Particles, Solar Modulation and Space Radiation: New opportunities in the AMS Era #3

Contribution ID: 22

Type: **not specified**

Fermi LAT Observation of High Energy Solar Flares

Tuesday 24 April 2018 09:00 (30 minutes)

The Fermi Large Area Telescope (LAT) observations of the active Sun provide the largest sample of detected solar flares with emission greater than 30 MeV to date. These include detections of impulsive and hours-long sustained emission coincident with GOES X-ray flares of X, M and C classes as well as very fast Coronal Mass Ejections (CME). Of particular interest are the detections of three solar flares whose position behind the limb was confirmed by the STEREO-B spacecraft. Fermi LAT detections of solar flares at high energy present an unique opportunity to diagnose the mechanisms of high-energy emission and particle acceleration and transport in solar flares. We will present the results from the observation of Solar Cycle 24 by the Fermi-LAT, including correlation studies with the associated Solar Energetic Particles (SEP) and CMEs.

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Session Classification: Early Tuesday Morning