



Contribution ID: 56

Type: Oral Presentation

Statistical Analysis of Outer Electron Radiation Belt Dropouts: Geosynchronous and Low Earth Orbit Responses During Stream Interfaces

Friday, 15 July 2011 12:15 (15 minutes)

The OMNI-2 data set enables a correlation study of solar wind and geomagnetic parameters, allowing the stream Interfaces events (SIs) to be examined. A superposed epoch analysis of these events was performed to determine the threshold levels of IMF Bz and other geophysical parameters. Based on energy, temporal and spatial characteristics, statistical analysis of electron flux data from LANL-SOPA and NOAA-POES satellites were used to study outer zone electron dropouts and precipitation. The deepest minimum of electron flux was observed after the impact of a SI, which coincided with the time of slower-decaying peak of electron precipitation. Results suggest that the mechanism causing the precipitation could also be responsible for the observed electron flux dropout during Stream Interference.

Level (Hons, MSc, PhD, other)?

MSc.

Consider for a student award (Yes / No)?

YES

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

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Session Classification: APSS

Track Classification: Track D2 - Space Science