2011 Workshop: High Speed Stream Driving of Geospace

Long title
High-Speed Streams and Their Geospace-Atmosphere Consequences
CEDAR-GEM
Conveners
Janet U. Kozyra
Richard M. Thorne
Description

This session addresses the impacts of high speed streams on the development of auroral activity, radiation belt enhancements, inner magnetosphere-subauroral response, and atmospheric perturbations. A particular sub-focus is to explore the changes in the geospace-atmosphere response in the recent unusual solar minimum interval due to the combination of strong and long-lasting high speed streams, the lowest average IMF and solar wind densities ever recorded at 1 AU, and the lowest solar EUV fluxes in three solar cycles, placing system responses into a backdrop of tenuous ionospheric densities and low conductivities.

Agenda

- Joint CEDAR-GEM Workshop: 30 June 2011, Time: Session 1 1330-1530 UT, Session 2 1600-1800 UT
- Conveners: Janet Kozyra <jukozyra@umich.edu> and Richard Thorne < rmt@atmos.ucla.edu>,

Invitation to Participate:Please come and participate in a multi-disciplinary discussion of the response of geospace and the atmosphere to high speed streams, both in general and as observed during the recent unusual solar minimum. All are welcome!

- Speakers (listed below) have been invited to introduce new findings, the questions they raise, and possible consequences in other geospace regions.
- We are very interested in information about additional features in geospace during high-speed streams. Please let the conveners know if you have 1-2

slides to present that raise new issues.
- We are hoping to take advantage of the unique environment that the joint CEDAR-GEM meeting provides to identify the signatures of related processes in different regions.

Please come and add your expertise to the mix in the joint workshop. Workshop Description:This workshop addresses the impacts of high speed streams on the development of auroral activity, radiation belt enhancements, inner magnetosphere-subauroral response, and atmospheric perturbations. A particular sub-focus is to explore the changes in the geospace-atmosphere response in the recent unusual solar minimum interval due to the combination of strong and long-lasting high speed streams, the lowest average IMF and solar wind densities ever recorded at 1 AU, and the lowest solar EUV fluxes in three solar cycles, placing system responses into a backdrop of tenuous ionospheric densities and low conductivities.

Revised Agenda

30 June 2011, Session 1

Solar Wind - Geospace Coupling during HSS

- 1330 Robert McPherron -- Solar wind - magnetosphere coupling during high speed streams, in the recent solar minimum, and in the preceding solar minimum
- 1350 Delores Knipp - Poynting Flux into ionosphere as a function of solar wind drivers
- 1400 Tzu-Wei Fang - Ionospheric response to the 13.5 day recurrent geomagnetic activity in 1974 (previous solar cycle)
- 1410 Raluca Ilie - Periodicities in the solar wind and magnetosphere during HSS

Radiation Belts and Ring Current during HSS

- 1430 Joe Borovsky - Radiation belts during weak high speed streams in 2006-2007
- 1450 Wen Li - Chorus waves seen on THEMIS during high speed streams
- 1510 Vania Jordanova - Ring current dynamics during high speed streams

1530-1600 BREAK

30 June 2011, Session 2

Geospace - Atmosphere during HSS

- 1600 Yue Deng - Joule heating and 9-day periodicity of HSS
- 1620 Jeff Thayer - CIR/HSS impact on the thermosphere
- 1640 Olga Verkhoglyadova - Ionospheric TEC and thermospheric emission dynamics during HSS

Atmosphere-Ionosphere Responses to Solar Minimum & Consequences

- 1700 Sharon Vadas - Differences in propagation and dissipation of gravity waves during SC24
- 1720 John Emmert - Causes and consequences of low thermospheric densities this minimum
- 1740 Stan Solomon: Upper atmosphere and ionosphere at Solar Minimum

1800 END OF SESSION

Justification

The topic addresses processes in the magnetosphere and the ITM region but also coupling and feedbacks between these regions. Progress requires information exchange and collaborations between discipline areas.

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