

2015 Workshop: The March 17 2015 great storm

Long title

Geospace disturbances during the March 17, 2015 great storm

Conveners

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Description

Geomagnetic activity from March 17-18 has been extremely strong, due to the arrival of the March 15 CME clouds as well as coronal-hole high-speed streams. The estimated average Kp was 6+ and 5 on the 17th and 18th, and Dst dropped to a minimum of -228 nT. This has been the largest storm during the current solar cycle, close to the superstorm category. Initial inspection of geospace observations has shown tremendous ionosphere and thermosphere disturbances in Asia, North America, and elsewhere. This was also the time period of a coordinated international campaign along the meridian circle of 120E/60W longitudes, and incoherent scatter radar (ISR) world days. Worldwide ISRs as well as other ground-based radio and optical instruments produced extremely valuable datasets.

This workshop provides a forum to present all relevant ground- and space-based datasets, initial analysis and modeling efforts for this event. Presentations that address disturbances of ionospheric electric field, thermospheric temperature, winds, and composition, their dynamic interactions, and relative roles in driving ionospheric responses are particularly encouraged.

Agenda

- Asti Bhatt et al.
- Samuel Sanders et al., Clemson University
- Chaosong Huang et al., AFRL

Justification

During geospace storms, disturbances in ionospheric electric field, thermospheric temperature, winds, and composition are well-known upper atmospheric responses that evolve in space and time and drive ionospheric variations. Their relative roles

appear to change substantially from case to case, exhibiting huge variability. The latest great storm commenced on March 17, 2015 provides us another excellent opportunity for improving our understanding of the stormtime coupled SAIR (Space Atmosphere Interaction Region), the target area of the CEDAR science. The proposed workshop addresses the CEDAR Strategic Thrust #2: Explore Exchange Processes at Interfaces and Boundaries.

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