joan
Burkepile
National Center for Atmospheric Research (NCAR)/ HAO
Michael Galloy, National Center for Atmospheric Research (NCAR) / HAO
Ben Berkey, NCAR / HAO
O.C. St. Cyr NASA Goddard Space Flight Center (GSFC), retired
Ian Richardson, NASA GSFC
William Thompson, NASA GSFC
Leila Mays, NASA Community Coordinated Modeling Center (CCMC)
Joycelyn Jones, NASA CCMC
Philip Quinn, NASA Space Radiation Analysis Group (SRAG)
Ricky Egeland, NASA SRAG
Poster
The NCAR Mauna Loa Solar Observatory (MLSO) COSMO K-Coronagraph (K-Cor) issues near-real-time coronal mass ejection (CME) alerts (when MLSO is operating) to the community and to NASA's Community Coordinated Modeling Center Solar Energetic Particle (SEP) scoreboard. K-Cor has a field-of-view (FOV) of 1.05 to 3 solar radii and 15-second cadence images. Data are fully processed in ~2 minutes which includes analysis of the data by a CME detection code developed by William Thompson. This makes K-Cor ideally suited to provide early warning CME detection as part of a Solar Energetic Particle (SEP) forecasting system.

Most K-Cor alerts are issued before the CME enters the LASCO field-of-view. K-Cor alerts provide the first warning of in-progress CMEs and can provide tens of minutes to an hour warning before the CME is seen in available LASCO data (includes LASCO data latency). The new NOAA CCOR coronagraph has lower data latency than LASCO, but an inner field-of-view that is ~1.5 solar radii higher than LASCO. CMEs must travel farther to be visible in CCOR. K-Cor CME alerts will continue to provide early detection of in-progress CMEs and complement observations from CCOR.

We discuss how observations from the low and middle corona provide important information on CME dynamics and acceleration that can help improve SEP forecasting. We highlight the forecasting benefit of a ground-based coronagraph network (I,e. ngGONG mission).

Poster category:

Poster category
Solar and Interplanetary Research and Applications
Meeting homepage
Space Weather Workshop 2025
Download to PDF