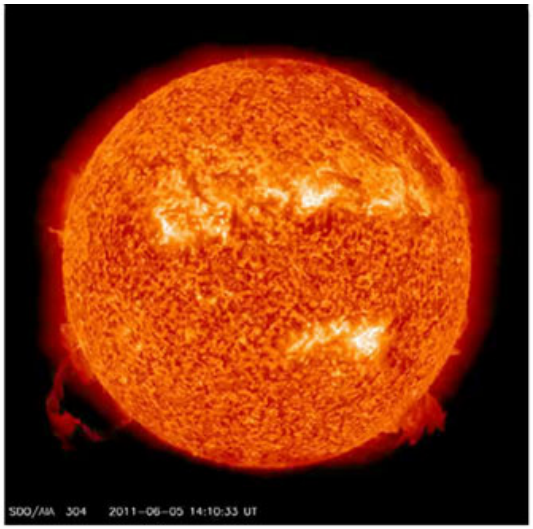
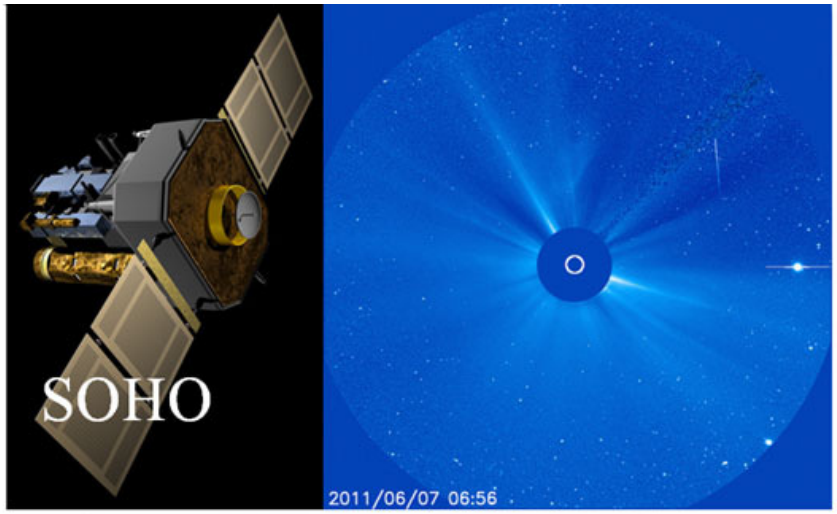
Elements of Space Weather Forecasting

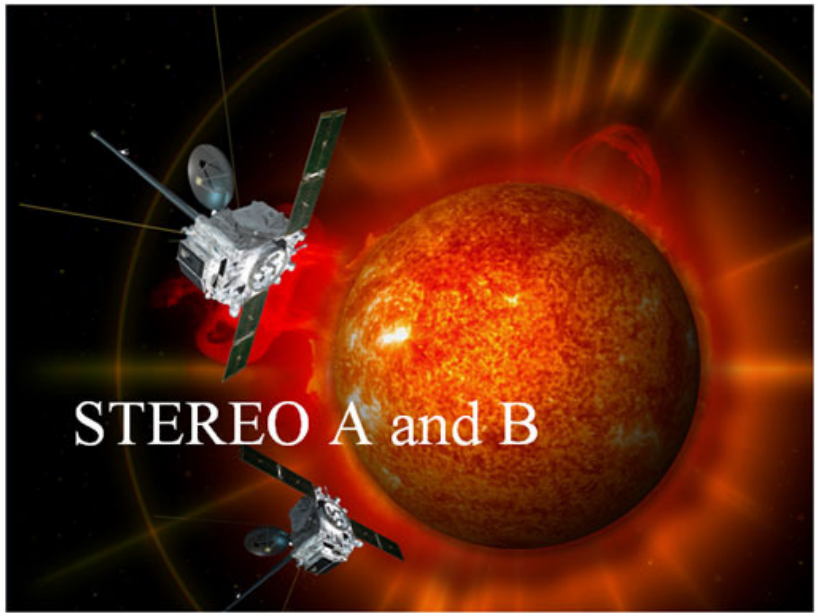
- Knowledge (Research)
- Data/information
- Models
- Dissemination

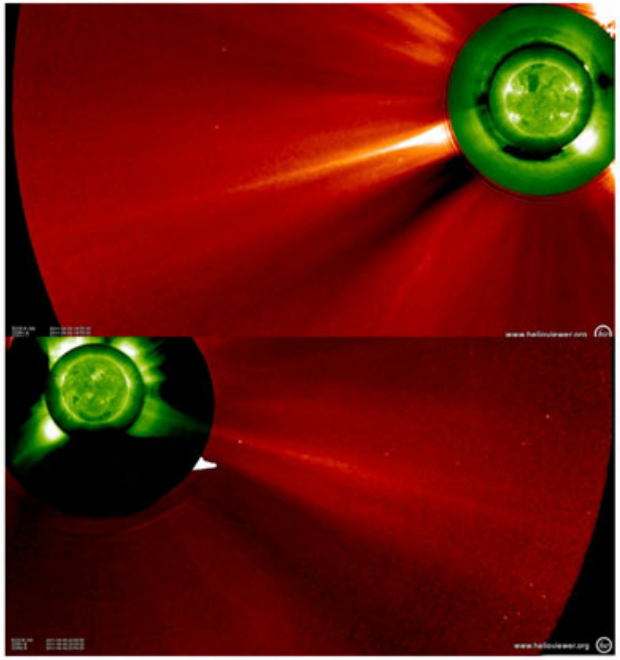
Knowledge, data sources and models are evolving rapidly

Observing the Sun





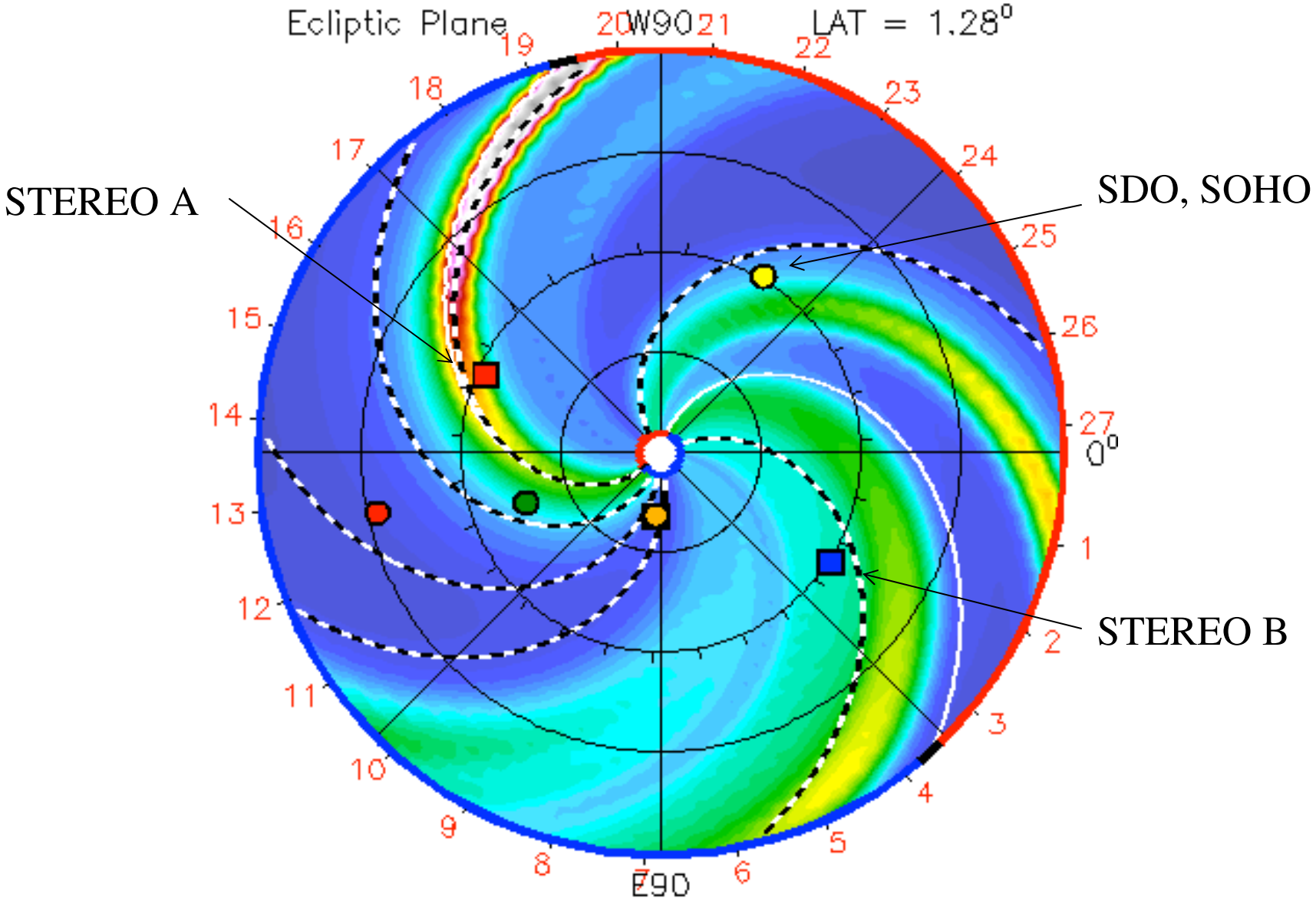




A

B

Observing the Sun

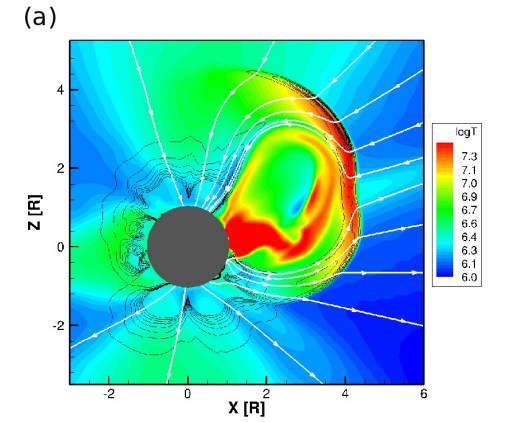


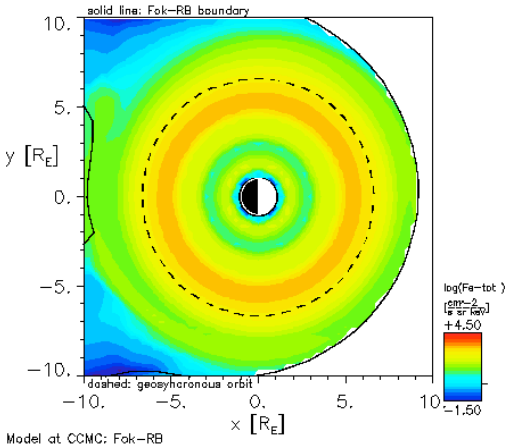
Modeling

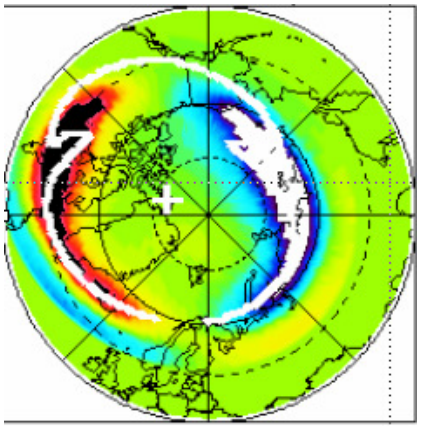
- NASA, with partner agencies: NSF, AFOSR, and ONR, sponsors the development of space research and environment models

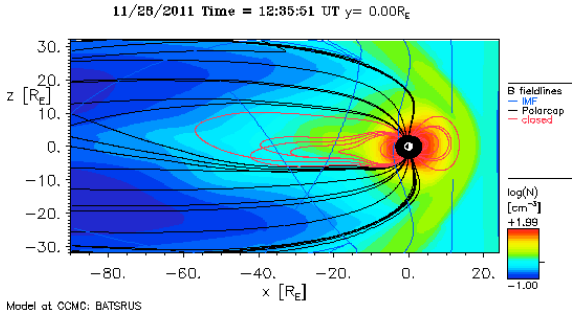
These models are employed for

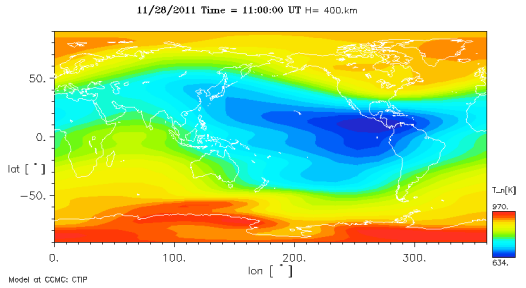
- Research and education
- Model testing and validation
- SWx forecasting for NASA, NOAA, DoD
- Other national needs



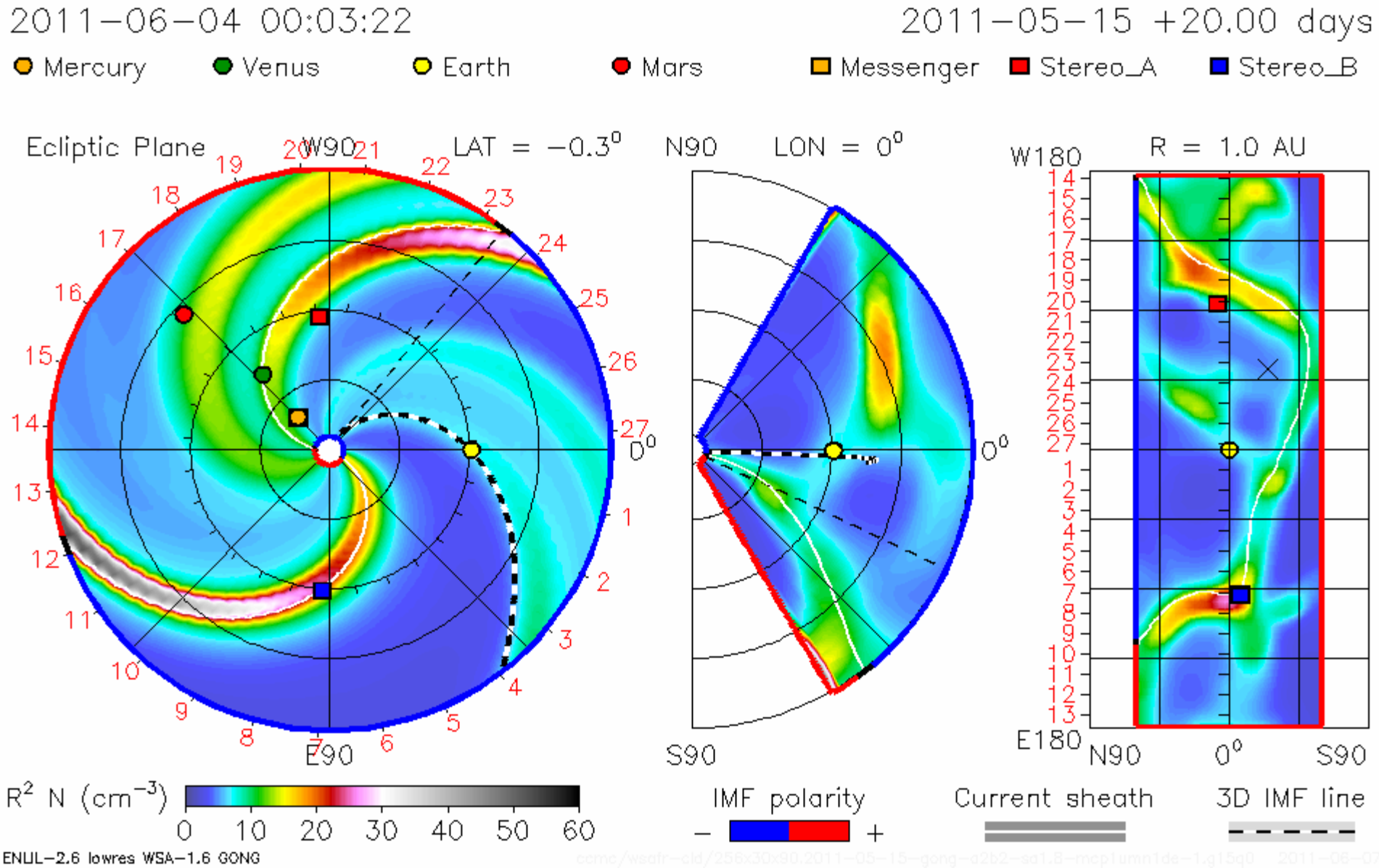






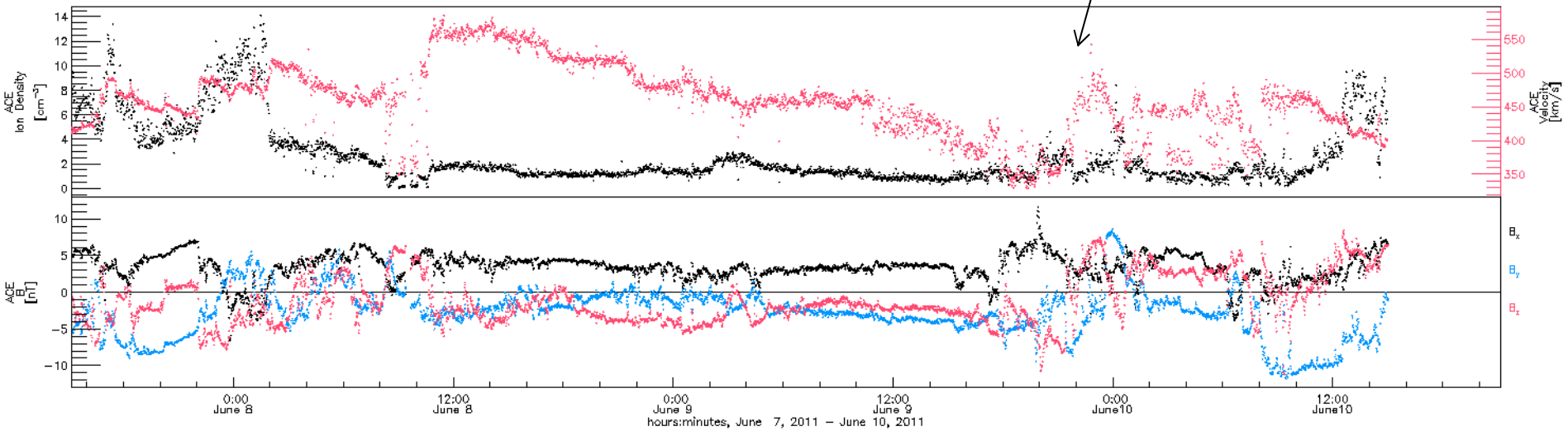


June 7, 2011 CME Forecast (1-3 days)

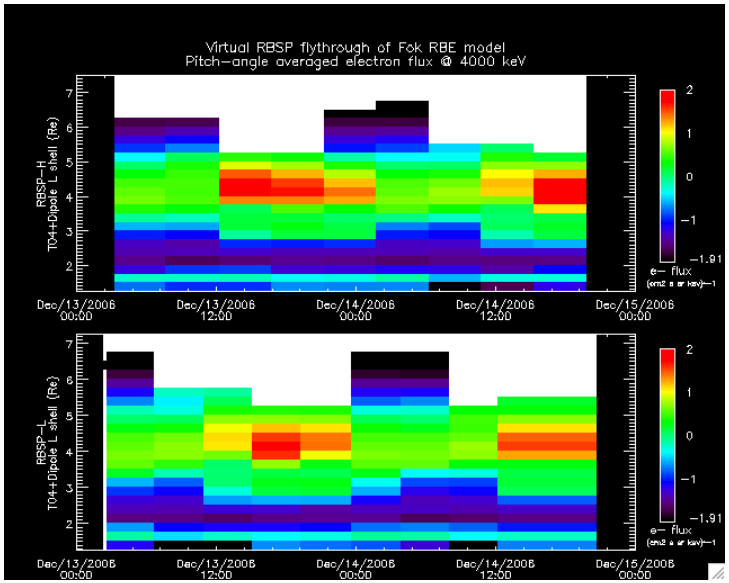


Short Term (~30mins) Warnings: ACE

CME flank arrival at Earth



Future Missions: RBSP



- Radiation Belt Storm Probes launch date: September, 2012
- 2 S/C, 5.8R_E apogee, 600km perigee, 10 degree inclination
- 2 year nominal mission lifetime
- The RBSP Space Weather (SW) broadcast will be a transmission like those on ACE and STEREO.
- Ground processing for SWx products will be provided by receiving organization(s).