

Current methods to forecast the space weather impact on spacecraft and power grids

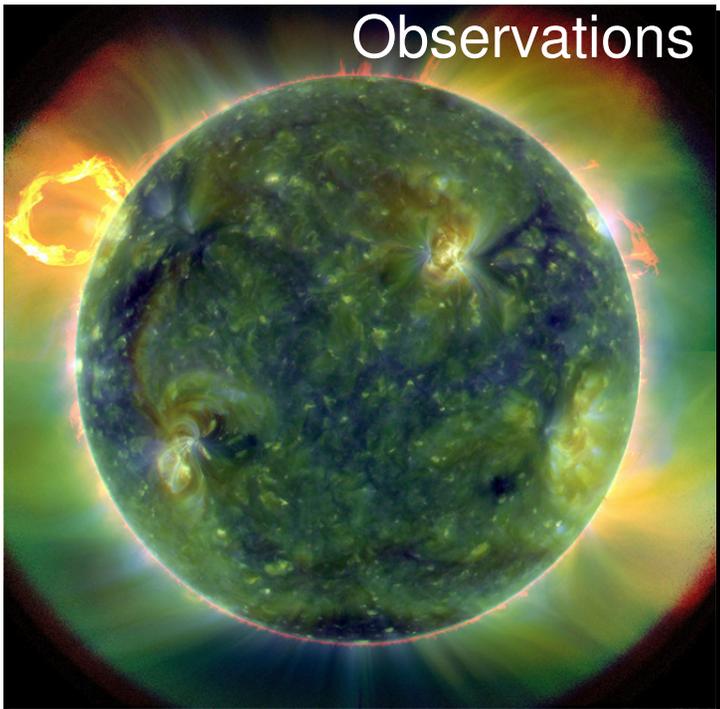
Pulkkinen, A.^{1,2}

¹The Catholic University of America, USA
²NASA/GSFC Space Weather Laboratory, USA

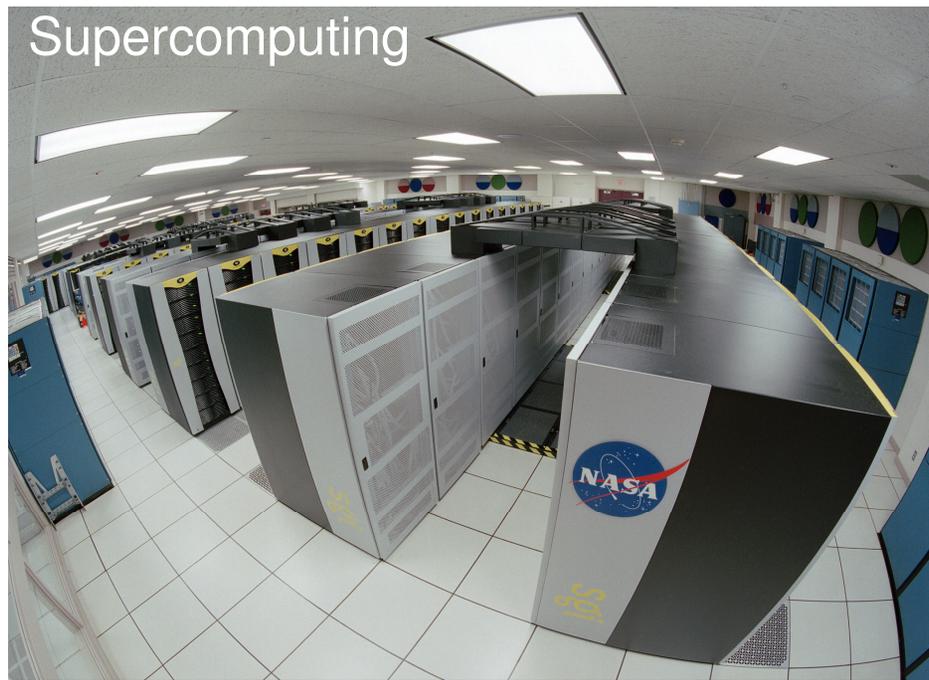


Emergence of numerical space weather forecasting

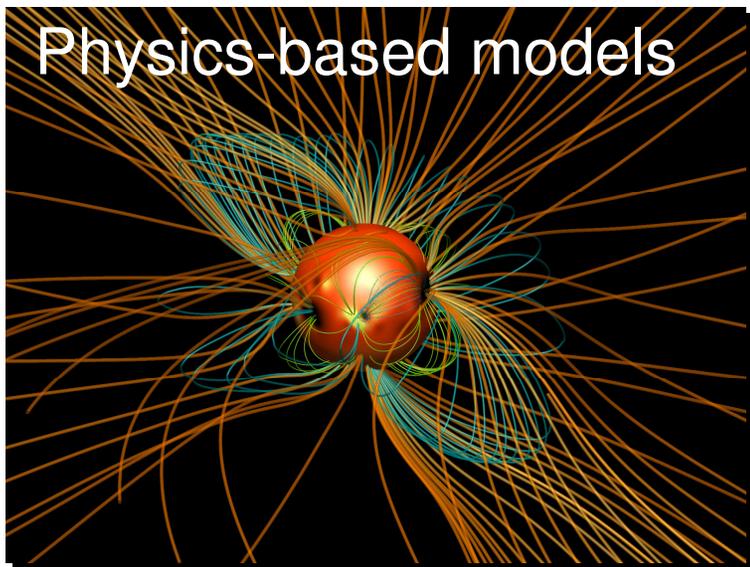
Observations



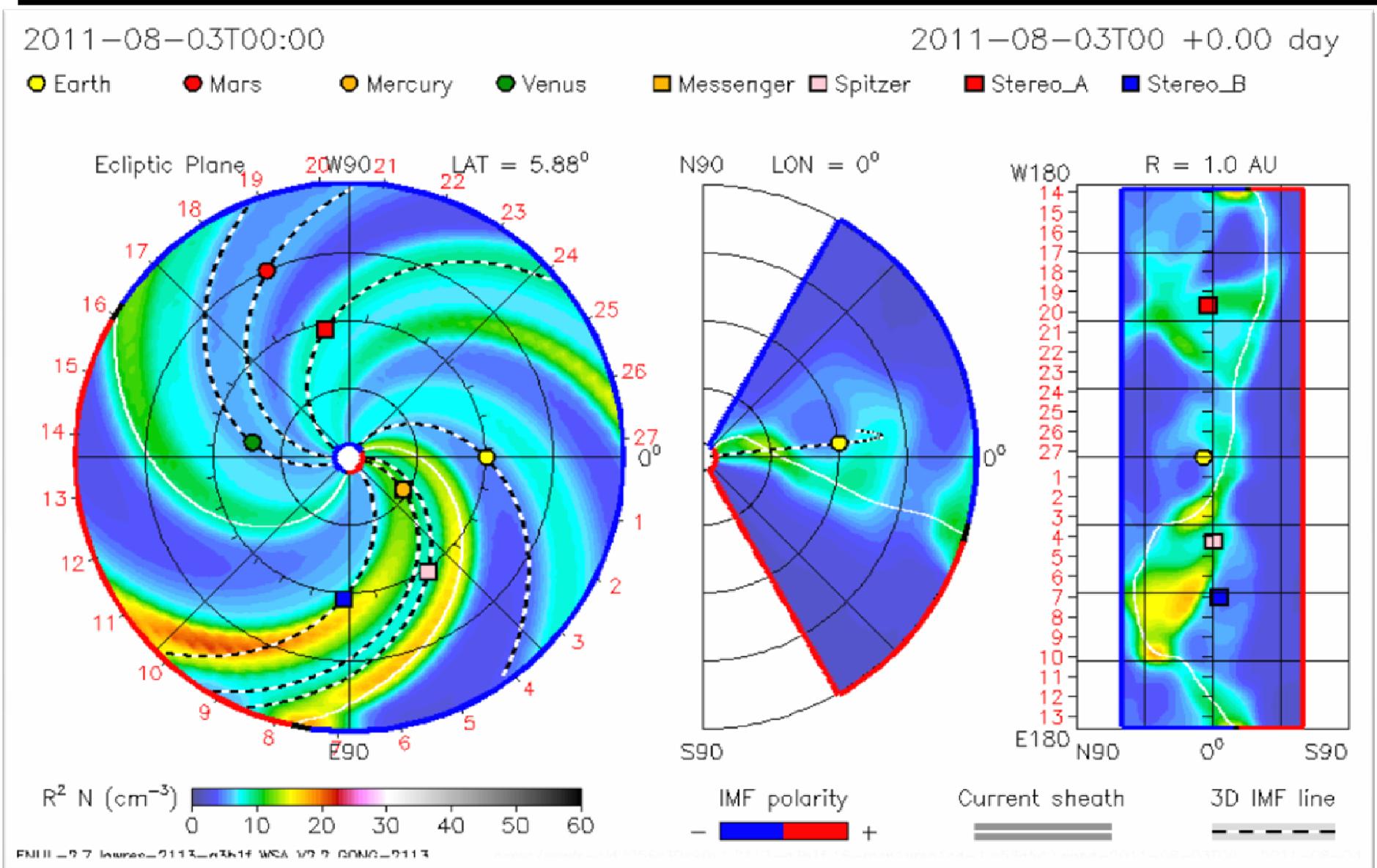
Supercomputing



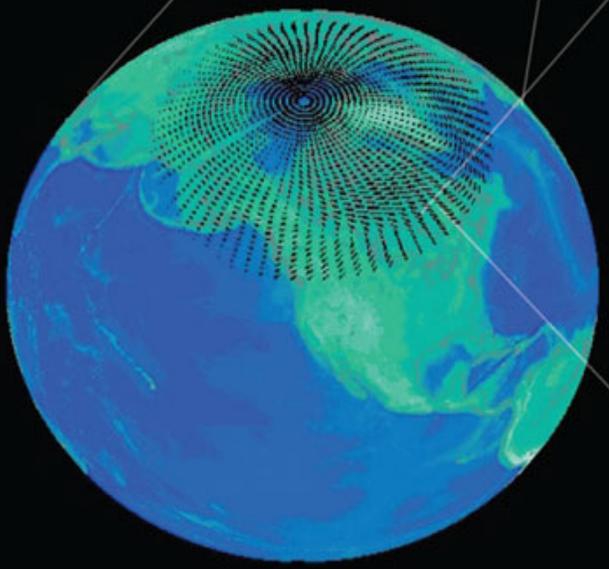
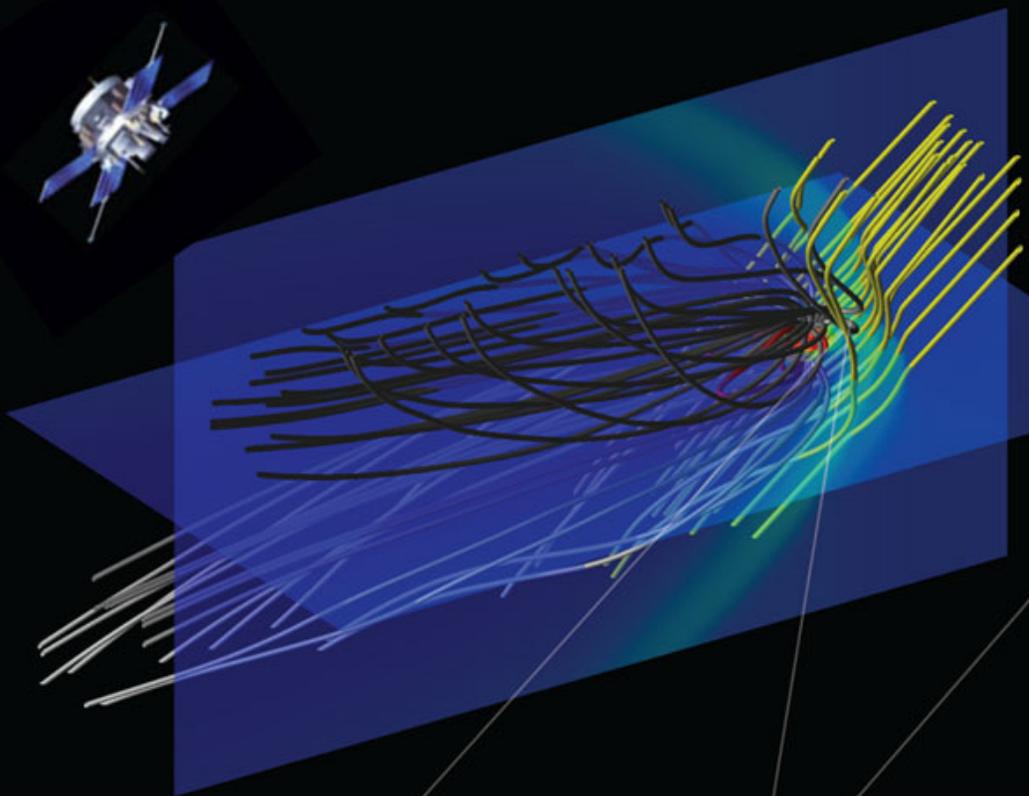
Physics-based models



Combination of these three enables modern space weather forecasting.



We can now generate forecasts tailored for specific spacecraft locations.



We understand the system well enough to tailor forecasts for individual nodes of power grids.

Forecasts enable possible mitigations actions.

