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Poster
The aurora is a critical value for monitoring and predicting space weather phenomena. Auroral activity tells us when space weather is active and dangerous; the lack of aurora is nature's "all clear" message. The location and intensity of the aurora mark regions of intense current flow, therefore indicating the threat of strong geomagnetically induced currents. The aurora is a major high latitude energy source for the ionosphere and neutral atmosphere. It is therefore a critical input for tracking and modeling ionospheric disturbances and neutral atmospheric drag. Despite being the lynchpin for space weather at Earth, there has not been a mission dedicated to viewing the whole aurora, either northern or southern, for over 20 years.

This poster introduces MAAX: the Magnetospheric Auroral Asymmetry eXplorer. MAAX is a mission concept that uses multiple spacecraft to completely view the entirety of both the northern and southern auroral ovals continuously. Observations would be made with a dual-wavelength ultraviolet imager aboard each spacecraft in order to specify the energy flux as well as the average energy, which informs researchers and models about the altitude of the energy deposition. This poster explores how the rich dataset MAAX provides could revolutionize existing auroral and space weather forecast models. We also illustrate the impact that a real-time data stream for MAAX would have on space weather operations, including forecasting and real-time monitoring.
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