Project Details

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Program Element: Independent Investigation: LWS

Project Title:
Building a Space Physics Virtual Observatory for Global and Local Sun-Earth Connection Studies

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Summary:
We propose to use existing and rapidly developing tools for browsing, analysis, retrieval of space physics data to produce a "virtual observatory" that will enable a much deeper understanding of multispacecraft and ground-based time series and images from the Sun, the heliosphere, the magnetosphere, and the ionosphere-thermosphere-mesosphere. The core visualization software for time series is reaching a mature stage, but we need to integrate external data bases with our current tools, as well as to add capabilities such as viewing related solar, auroral, and other images. Initially we will provide a simple means for accessing the online holdings at the National Space Science Data Center but we plan to include as many relevant data providers as possible. We also propose to provide tools for viewing models and simulations along with measured data. Our ultimate system will allow a user to gather and browse data from disparate sources, view them in place on the spacecraft orbits, view time-series graphs of selected quantities, produce animations and record them, and download "value-added" data at desired resolutions. This project is relevant to NASA and this NRA both in the short and long term through the provision of a continually upgraded set of tools for the LWS/SEC community.

Publication References:

no references