Project Details

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Project Title:
Inner Heliosphere Multispacecraft Data Analysis Tool

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Summary:
We propose to develop a web-based tool specifically for putting inner heliosphere multispacecraft data sets in the global context provided by solar wind models based on solar magnetic field measurements. The tool will be developed and tested using the twin spacecraft Helios data set in conjunction with contemporaneous near-Earth data from IMP-8 and ISEE-3. Three-dimensional global solar wind models will be constructed from the historical solar magnetogram data bases to provide displays and data manipulation options exploiting measurements at different spacecraft locations. The tool will provide new insight into the Helios mission multipoint observations using state of the art visualization capabilities and knowledge of coronal sources of the ambient solar wind, together with a new resource for interpreting future STEREO and MESSENGER mission data in combination with ACE measurements. It will similarly be ready for future LWS sentinels and any other serendipitous or planned heliospheric constellations that similarly seek global inner heliosphere context information for nowcasting, forecasting, or CME event backgrounds. The project will make heavy use of students in the user-interface design and testing of the tool.

Publication References:

Summary: "

Reference: Janet Luhmann / University of California Berkeley - Inner Heliosphere Multispacecraft Data Analysis Tool