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Poster
The recently launched IMAP and SOLAR-1 (formerly: SWFO-L1) satellites are now at the Sun-Earth Lagrange 1 (L1) point having joined four earlier missions: ACE, Aditya-L1, DSCOVR, and Wind. Measuring the solar wind's plasma variables, its higher-energy particle populations, and the IMF from a 'swarm' of six platforms is unprecedented. The temporal overlap of the missions will last only a few months, but it will give us a more complete view of structures ranging from CMEs to switchbacks, waves, and turbulence. Understanding and modeling the spatiotemporal complexity of the upstream solar wind is expected to have benefits for optimizing the drivers of geospace models. Geoeffective structures (e.g. shocks) have direct impacts on space weather events on Earth (e.g., dB/dt variability which drives disturbances of the electric power grid). Partly due to these considerations, the mission lives of legacy spacecraft were recently extended to the end of 2026 to facilitate basic analysis such as Cal/Val of corresponding datasets as well as innovative research. Recently, detailed comparisons of magnetic-field data were made using IMAP and SOLAR-1 (with a proximity of <1 R_E during the transfer orbit to L1) and other satellites. Similar comparisons are planned for other measurements. To systematize the approach, mission and instrument PIs are working to specify datasets with optimal reference frames, resolutions, and formats before sharing the data with the community. The presentation will summarize these developments.
Poster session day
Wednesday, April 29, 2026
Poster location
48
Meeting homepage
2026 Space Weather Workshop
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