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Poster
The Solar Wind Plasma Sensor (SWiPS) measures the solar wind on NOAA's Space Weather Observations at L1 to Advance Readiness (SOLAR-1) mission. Launched in September 2025, SOLAR-1 establishes operational capability and continuity of space weather observational requirements which enables space weather watches, warnings, and alerts from the Sun-Earth Lagrange 1 point. SWiPS contains two nested ion sensors, each capable of measuring solar wind ions (mainly protons and alpha particles) from ~0.17 to 32 keV/q, providing solar wind velocity measurements from 200 to 2500 km/s. The SWiPS primary data products include the solar wind ion velocity, temperature, density, and dynamic pressure for these two dominant ion species, while high resolution measurements of their 3-D phase space distributions and flows are also available. SWiPS is currently undergoing commissioning and data product validation and has been measuring the solar wind since activation in early November 2025. In this presentation, we show SWiPS observations and data products for various solar conditions, including the high-speed coronal mass ejection events from November 11 – 12, 2025 and January 19 – 20, 2026. These SWiPS observations demonstrate its capabilities to produce high quality and accurate solar wind measurements which meet the operational space weather monitoring needs of NOAA's Space Weather Prediction Center. Thus, these measurements are used to assess the space weather risks to the nation's bulk electrical system and other vulnerable assets on the ground and in space.
Poster session day
Thursday, April 30, 2026
Poster location
39
Meeting homepage
2026 Space Weather Workshop
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