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Poster
Measurements of solar wind particle densities and velocities are crucial for space weather monitoring. Several plasma instruments are currently in operation within the inner solar system, e.g., Stereo, Solar Orbiter, PSP, ACE and Wind and several others e.g., Aditya, IMAP and VIGIL, are or will be making their way to L1 and L5 over the next few years. Plasma instruments are also an important part of the GOES, GOES-Next and Hermes platform. Calibration and cross calibration of these assets will be a crucial aspect for efficient exploitation of the data for space weather as well as for science of the heliosphere. In addition, plasma instruments exhibit considerable performance variability over their lifetimes and under different solar wind conditions. During extreme space weather events for example, the electron multiplier detectors used for detection of the incoming plasma tend to saturate, providing large errors in the measurements. In this paper, we discuss several aspects that result in performance variability of these instruments and discuss techniques that are typically employed to correct for these variations. We also discuss potential techniques that can be used to calibrate in-flight and cross-calibrate these different assets at their different heliospheric locations.

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