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STEREO as a Space Weather Station for Planetary Missions

W. Thompson (1) and **J. Luhmann** (2) for the STEREO Team and Collaborators (1) GSFC, (2) University of California, Berkeley (jgluhman@ssl.berkeley.edu/Fax 510-643-8302)

When the STEREO mission launches this year it will provide new options for observing interplanetary conditions, or heliospheric "space weather" relevant to planetary missions. In particular, it will provide important supporting information on the global picture of solar wind structure and solar activity removed from the Sun-Earth line. It's observations will be especially relevant to the inner heliospheric missions at Mercury (Messenger), Venus (Venus Express) and Mars (Mars Express and Mars Global Surveyor) which carry particles and fields and UV detectors. In this poster we show the locations of the STEREO spacecraft relative to the locations of the planets assuming various launch dates (currently uncertain due to a launch contractor labor dispute). We also suggest different types of STEREO measurements, including quadrature measurements using imaging on one spacecraft and in-situ measurements on another, that are expected to be particularly advantageous. We lastly illustrate how the use of heliospheric models available at the CCMC can be used to connect interplanetary conditions experienced at several planetary locations.