Ian
Hewins
HAO/NCAR
Sarah Gibson HAO/NCAR
Barbara Emery HAO/NCAR
Oral
In support of the Whole Heliosphere and Planetary Interactions (WHPI) effort and to highlight solar structure near solar minimum we are producing solar synoptic maps featuring coronal hole boundaries for the WHPI extended minimum period (September 2018 – February 2020 or CR's 2209 – 2227) and two of the Parker Solar Probe times of interest CR2239 (Dec. 2020 – Jan. 2021) and CR2242 (Mar. – Apr. 2021). These maps are made from two positions around the sun using SDO and Stereo EUV data. With SDO 193 and 305 angstroms are used and with Stereo A 195 angstroms. These maps, made in the manner established by Patrick McIntosh and used in the McIntosh Archive of Synoptic maps, enable studies of solar features and their relation to structures in the solar wind and space environment of the earth and other planets. For the Stereo A maps, we will try to correlate fluctuations in solar wind data with specific coronal holes. During the Carrington Rotations that Stereo A is well aligned with Mars we will try to correlate fluctuations in solar wind data at Maven with specific coronal holes. From the SDO-based maps with the Earth's perspective, we will trace solar wind back to its footpoints at coronal holes and their boundaries using the SolarSoft PFSS codes of M. DeRosa and compare it to the CCMC model runs for each Carrington Rotation. This data will be supplemented with OMNI solar wind data showing velocity, amplitude on the AP index, Bz and DST. In addition, 'hairy sun' PFSS models showing open and closed field lines will be included. This data will be organized to show a sort of mosaic of coronal hole and solar wind data. The result will be a comprehensive look at the organization of coronal holes and high speed solar wind streams for each Carrington Rotation during the solar minimum period and the Parker Solar Probe post minimum Carrington Rotations of interest.
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