Sarah
Gibson
NCAR/HAO
Craig DeForest, Southwest Research Institute
Huw Morgan, Aberystwyth University)
Curt A. de Koning, University of Colorado
Yuhong Fan, NCAR/HAO
Anna V. Malanushenko, NCAR/HAO
Viacheslav G. Merkin, Johns Hopkins Applied Research Laboratory
Elena Provornikova, Johns Hopkins Applied Research Laboratory
Barbara J. Thompson, NASA Goddard Space Flight Center
David F. Webb, Boston College
Oral
PUNCH will have unique capability for tracking the evolution of CME substructure as it moves through and interacts with the solar wind. We present analyses using polarization data obtained from forward modeling simulations of CMEs in the corona and inner heliosphere. We use these data to track the evolution of CMEs in three dimensions and consider the diagnostic potential of polarization data. We find this method reproduces 3D position well for structures at small elongation, whereas higher elongations are more impacted by multiple features along the line of sight. We demonstrate that front-back ambiguities may be resolved by observing time evolution of structures, and explore capabilities for extracting information about the chirality of CME magnetic flux ropes from polarization data.
Download to PDF