Project Details

ROSES ID: NRA-03-OSS-01
Selection Year: 2004
Program Element: Independent Investigation: LWS

Project Title:
Data Environment: Creation of Online Access to the Complete set of Solar Maximum Mission (SMM) Coronagraph/Polarimeter Observations

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Summary:
The Solar Maximum Mission (SMM) Coronagraph/Polarimeter (C/P) was in Earth orbit and observed the solar corona from February through September of 1980 and from June, 1984 through November, 1989. The observations were taken in broadband white light with a field-of-view from approximately 1.8 to 5.0 solar radii. During these years the SMM C/P instrument recorded over 1300 coronal mass ejections (CMEs) and observed coronal brightess changes that varied with the solar cycle. The SMM Mission was originally funded under NASA contract S-04167 which expired approximately one decade ago. A small sample of SMM images are currently available from HAO via the internet. This small set of images are scaled and provided for qualitative use only. We propose to provide the SMM observations in their entirety, to the scientific community and general public via the internet. This work will involve conversion of the binary data into fits format, widely used by the astrophysical community, which can be used for both qualitative and quantitative purposes. The data will be transferred from exabyte tapes to a newly acquired data storage jukebox accessible to the the internet by a new SMM web site. This new web site will include basic viewing and analysis tools to allow users to measure positions and brightnesses in the corona as well as generating trajectories, densities and masses of CMEs.

Publication References:

Summary: ''

Reference: Joan Burkepile / National Center for Atmospheric Research-Data Environment: Creation of Online Access to the Complete Set of Solar Maximum Mission (SMM) Coronagraph/Polarimeter Observations

Summary: no summary

Reference: Burkepile, J. T.; Hundhausen, A. J.; Stanger, A. L.; St. Cyr, O. C.; Seiden, J. A.; (2004), Role of projection effects on solar coronal mass ejection properties: 1. A study of CMEs associated with limb activity, Journal of Geophysical Research: Space Physics, Volume 109, Issue A3, CiteID A03103, doi: 10.1029/2003JA010149