STEREO SWG: PLASTIC STATUS

Toni Galvin (UNH)
for the PLASTIC Team

Special thanks to Lorna Ellis (Data), Mark Popecki (Ops)

STEREO PLASTIC Institutions:
UNH, U Bern, MPE, U Kiel, NASA/GSFC
IDPU/LVC provided by UCB (IMPACT)

The Sun in EUV courtesy
STEREO/SECCHI/NRL
Outline

• PLASTIC status since last SWG
  – Papers and Conferences
  – Online Data Status
  – Beacon Status
  – Operational Status
  – EPO
Papers Published/Submitted/In Preparation
(since Mar07 SWG)

- STEREO Instrument Papers - Space Science Reviews (in press)
- Daoudi et al., *The STEREO/PLASTIC response to slow solar wind ions (flight measurements and models)*, to be submitted to Astrophys. Space Sci. Trans.
- Eriksson et al., *Shear-flow effects on magnetic field configuration within a solar wind reconnection exhaust*, to be submitted to GRL
Conference Presentations
(since last SWG: AGU, IUGG, SPD, SHINE, SOHO20, LWS)

Galvin et al., *First Results from the STEREO Plasma and Suprathermal Ion Composition Investigation*, IUGG, Perugia, Italy, July 2007.


Galvin, et al., *The Plasma and Suprathermal Ion Composition Experiment on STEREO -- Early Results*, SOHO20, Belgium, August 2007.


Karrer et al., *Helium distribution and heavy ion composition, First results from PLASTIC instrument onboard STEREO*, IUGG, Perugia, Italy, July 2007.


Möstl, et al., *Two-spacecraft reconstruction of a magnetic cloud and comparison to its solar source*, SOHO20, Belgium, August 2007.


Dissertations and Thesis
(since Mar07 SWG)


In Progress:
Data and S/W Status

• Public Domain at http://stereo.sr.unh.edu and/or SolarSoft

• Public Domain, validated data and software includes
  – Proton bulk parameters (validated 10-min bulk parameters with data quality flags), Feb(A)/Mar(B) through Sept 2007
  – Browse weekly stack plots, Feb(A)/Mar(B) through Sept 2007
  – Level 1 CDFs and documentation, up to present
  – STEREO PLASTIC L1 Analysis Software (SPLAT) and documentation Interactive plotting software for L1 CDF files. (SPLAT uses TPLOT heritage.)
  – Read_CDF (s/w and documentation for making ascii versions of data)
  – Science_Overview (s/w for making science summary plots)
Data and S/W Status

• Public Domain in Progress (currently under final testing)
  – OnBoard Moments Daily, Validated (1-min bulk velocity, density, temperature, with a data quality flags)
  – OnBoard Moments Monthly, Validated (30-min bulk velocity, density, temperature, with a data quality flags)
  – Level 2 Moments CDFs
  – Full resolution Daily Housekeeping

• Internal Domain (used for validation purposes)
  – OB Moment comparison
  – Moment Efficiencies
  – Monitor Rates
Online PLASTIC

• PLASTIC Homepage
  http://stereo.sr.unh.edu

• Data Files
  http://stereo.sr.unh.edu/data/PLASTIC_Resources/Browse.htm

• Data through Sept 30, 2007

Welcome to the STEREO PLASTIC website...

Part of the NASA STEREO mission for providing a global view of the Sun and its effects on the Heliosphere.

The NASA Solar Terrestrial Relations Observatory (STEREO) mission uses two nearly identical spacecraft in orbit about the Sun to provide a unique and revolutionary view of the Sun-Earth system. The strategic placement of the two spacecraft allows for the first time a stereoscopic (3-D) view of the Sun and the interplanetary space environment out to the orbit of the Earth. Of particular interest to this mission is the origin, propagation and evolution of solar winds...
Web Statistics Are Now In Place

Usage Statistics for stereo.sr.unh.edu
Summary Period: Last 12 Months
Generated 13-Nov-2007 00:15 EST

Usage Statistics for fiji.sr.unh.edu
Summary Period: Last 12 Months
Generated 12-Nov-2007 00:02 EST

Generated by Webalizer Version 2.01
Web Statistics
Can be accessed in detail by month

Top 30 of 47 Total Countries

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PLASTIC merging with IMPACT, courtesy C.T. Russell
PLASTIC Beacon Data

- PLASTIC also produces a 24/7 “Beacon” data product.
- Presentation given at NOAA SEL on PLASTIC Beacon data products (Kistler August 2007)
- Improved calibration table for beacon density calculations was implemented at SSC 10/23/07.
Operational Summary  
(since Mar07 SWG)

All systems are nominal.

Most significant operations during this period:

- IDPU S/W Load 3.2.6 in June (B) and July (A). Some smaller issues have been since identified.

- Classifier table loads Sept/Oct (continuing to optimize PHA box definitions).

- Some significant data gaps due to calibration and test sequences (B) and safing for Leonids (A).
PLASTIC FM1 and FM2 Operations
Gory Details

FM1 (A)
- 4/6/07 Changed S-channel switch threshold to 125 counts from 250 counts
- 5/10/07 Proton mode
- 6/13/07 Increased MCP V from 2850 to 2902V
- 6/26/07 Loaded IDPU s/w 3.2.6
- 7/19/07 Increased TAC2 threshold from 22 to 25 channels
- 9/1/24 to 10/4/07 loaded classifier table
- 10/28, 29, 31/07 Shut off entrance system for Leonids

FM2 (B)
- 4/2/07 Increased MCP V from 2711 to 2789 V
- 4/4/07 Decreased MCP V to 2751 V
- 4/10/07 Increased MCP V to 2811 V
- 5/2/07 Increased MCP V to 3039 V
- 5/9/07 Increased MCP V to 3092 V
- 5/10/07 1 hr Proton Mode samples on each of 3 days
- 6/13/07 deflector voltages calibration - data gap from 1415 6/13 to 0430 6/14/07.
- 6/20/07 ESA voltage calibration
- 7/2/07 Loaded IDPU s/w 3.2.6
- 7/19/07 Increased TAC2 threshold from 22 to 25 channels
- 7/20/07 Set H moment and peak search array to SW_All
- 8/17/07 Set up SSD threshold tests and pha selection mode tests for days 232-234
- 9/11/07- 10/2/07 Loaded classifier table
- 10/22/07 Set up Proton mode for day 293
- Changed TAC2 threshold to 70 channels on day 293
EPO - UNH Partnership with Christa McAuliffe Planetarium and NASA

- **UNH**: Three STEREO PLASTIC undergraduate interns have become NASA Academy Summer interns!
- **CMP**: Spacetacular Saturday Astronomy Fair
- **CMP**: Superstellar Teen Nights
- **CMP**: Scholarships for Teacher Workshops
- **CMP**: ViewSpace (in progress)
- **UNH**: Jay Carroll (UNH STEREO Intern and NASA Academy alumnus) working as UNH STEREO liaison with CMP for implementing ViewSpace.