

STEREO Science Center Status Report

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STEREO SWG
20-22 April 2008
Meudon, France

Upcoming Spacecraft Events

- Momentum dumps occurring about once every 6 weeks for Ahead and 9 weeks for Behind. Next expected dumps are:
 - Ahead: May 7
 - Behind: May 14

SECCHI closes doors and performs calibrations during momentum dumps.
- SECCHI stepped calibration rolls now occur about once every 3 months. Next rolls will be:
 - Ahead: June 24
 - Behind: May 20

Rolls needed to determine background levels in coronagraphs.
- High gain antenna calibrations on both spacecraft July 9.
 - Spacecraft are rolled by $\pm 2^\circ$ to find best signal.
 - Occurs about once every 3 months.
 - Small impact on science

Recent Science Events

- **SECCHI Campaign**
 - January 7-20
 - Second downlink each day for extra SECCHI data

- **Whole Heliospheric Interval**
 - March 20 – April 16
 - Multi-mission campaign to observe the Sun and heliosphere over a complete solar rotation
 - Successor to the Whole Sun Month campaigns of 1996-1999
 - STEREO participation is through synoptic data

Upcoming Science Opportunities

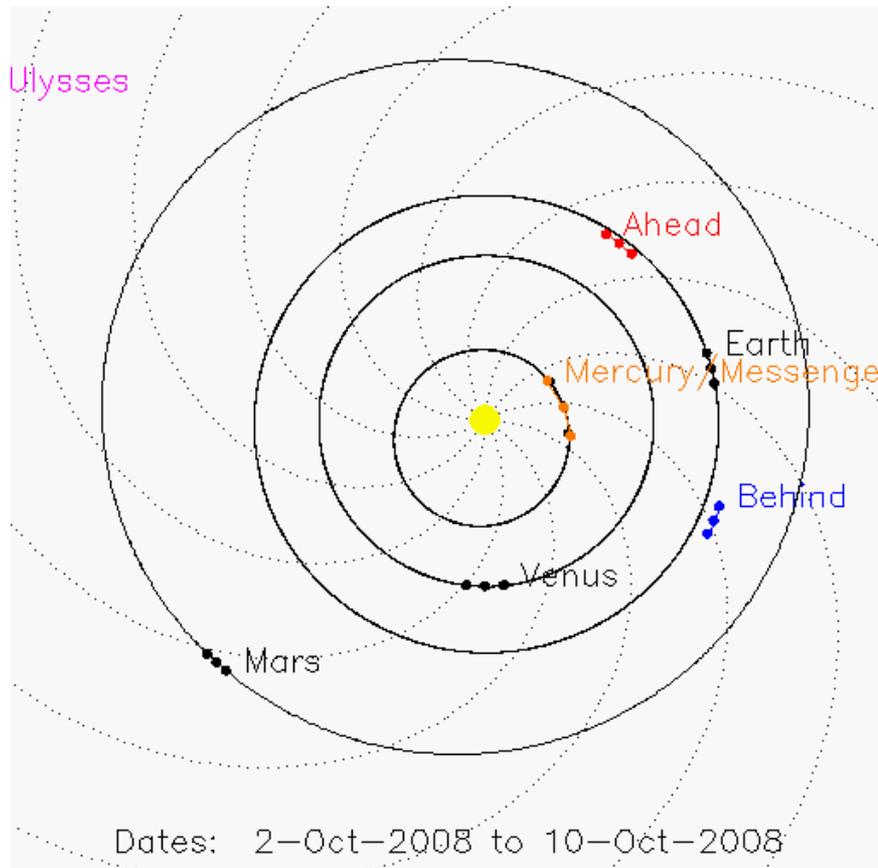
- 2008

- SUMER/Hinode campaign sometime in the May/July time frame.
- Messenger fly-by of Mercury, October 6
 - Behind magnetically connected
- SUMER campaign Nov 1-Dec 15

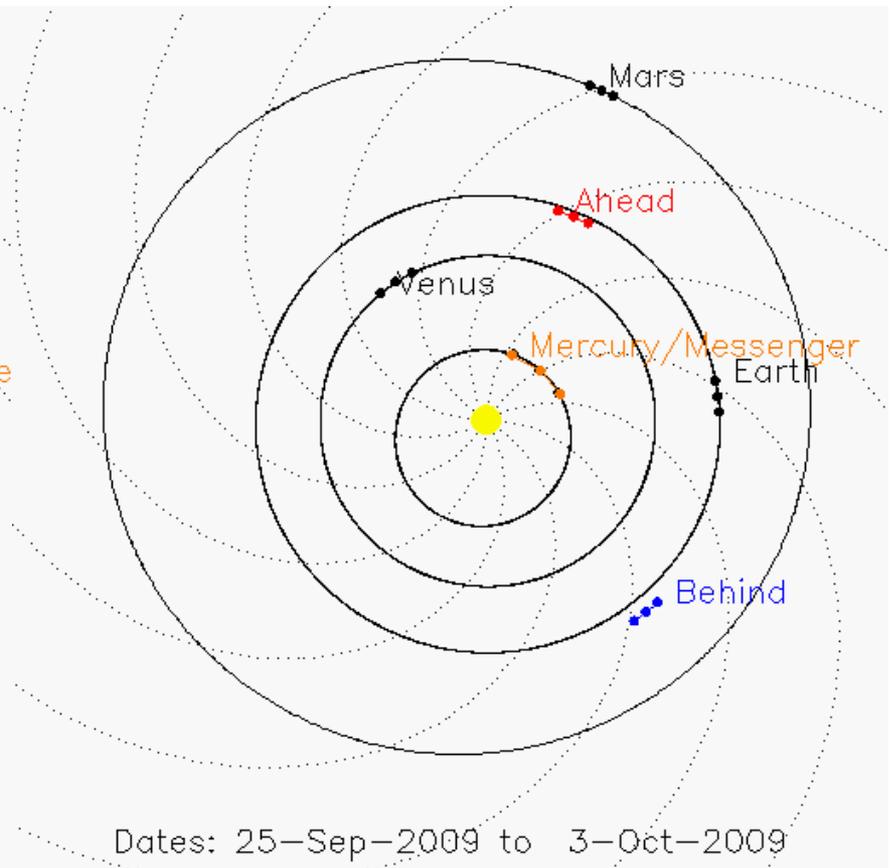
- 2009

- Messenger fly-by of Mercury, September 29
 - Behind in quadrature with Mercury
- STEREO-Behind at L5, September-November
 - Interest as test for possible future SWx mission
 - Ahead at L4 about the same time

6 October 2008



29 September 2009



Telemetry Rate Changes

Date	Separation (deg)	Distance (AU)	Downlink (kbps)	Pass duration (hrs)	Daily volume (Gbits)
Jan 2007	0	0	720	4	5
Aug 2008*	67	0.6	480	5	5
May 2009*	96	0.8	360	5	5
Aug 2009*	109	0.9	160	6	2.35
Nov 2010	165	1.4	96 (B)	6	1.4
Apr 2011	176	1.4	96 (A)	6	1.4
Aug 2012	237	1.7	30	10	0.44

- Red DSN pass durations not yet agreed to

- Current in-situ volume is 0.7 Gbits/day

**slightly later for Behind*

- Spacecraft housekeeping volume goes down proportionally after August 2009—not included in above totals
- Lowering RT rate may improve daily volumes

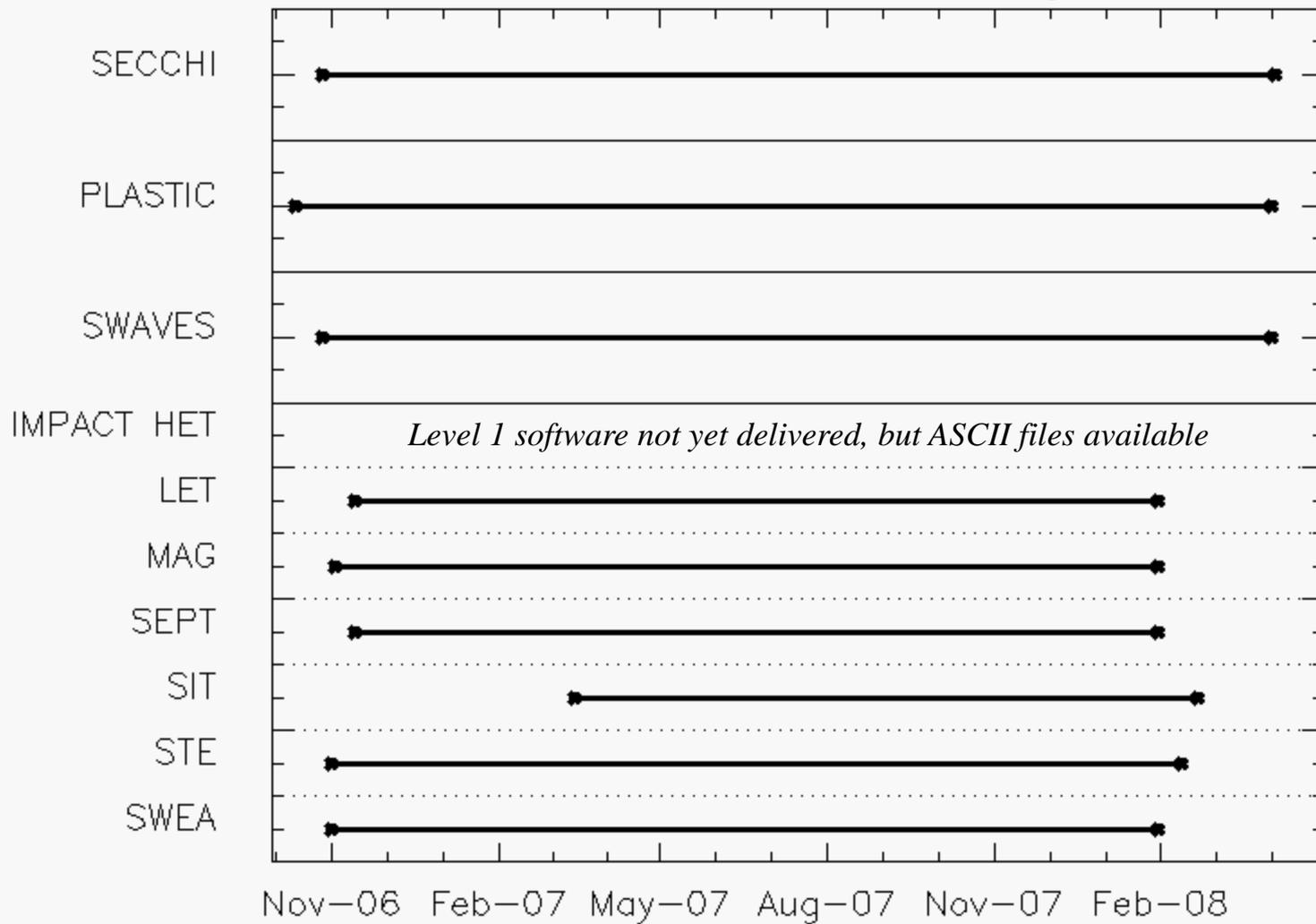
Archive Status

- Archive currently contains about 13 TB of data.
 - Current hardware is extensible—we have no concerns about being able to store the data.
 - New backup hardware has been installed.
- Older preliminary (“.ptp”) level-0 telemetry files are aged off the system when the final (“.fin”) versions are available.
 - Considerable savings in space
 - Decided at previous SWG meeting

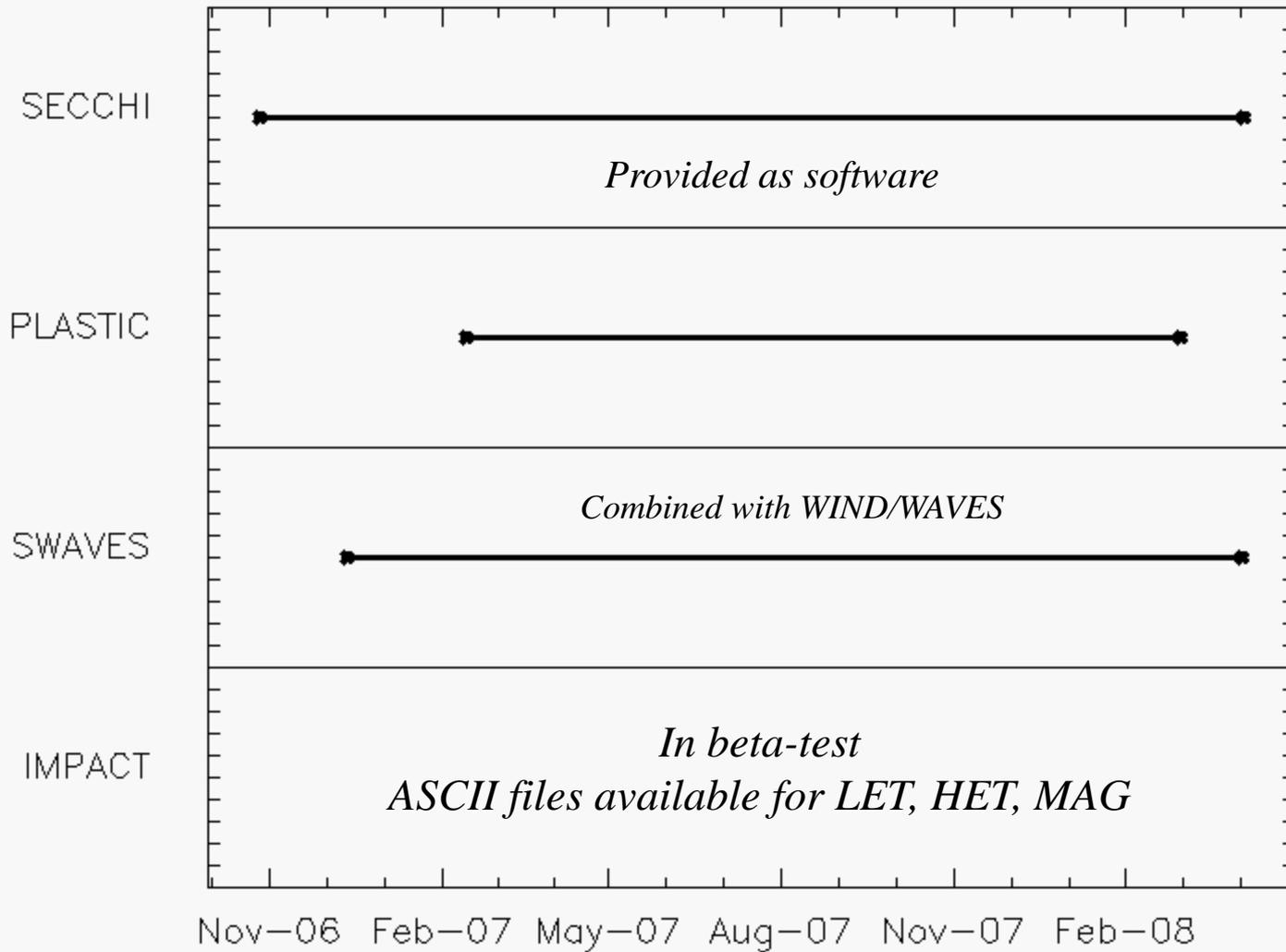
Data Availability

- IMPACT SIT & STE level-1 data now available
 - Still no HET data
 - PLASTIC level-2 available in ASCII and Excel formats
 - CDF files starting to become available
 - IMPACT level-2 data not yet available
 - Some products available on instrument pages
- Instrument resource pages now available for PLASTIC, IMPACT, and SECCHI
 - Alex Young working on SWAVES page
 - Alex will also work with the instrument teams to help improve the resource pages
- Work still proceeding on customized interface to Virtual Solar Observatory

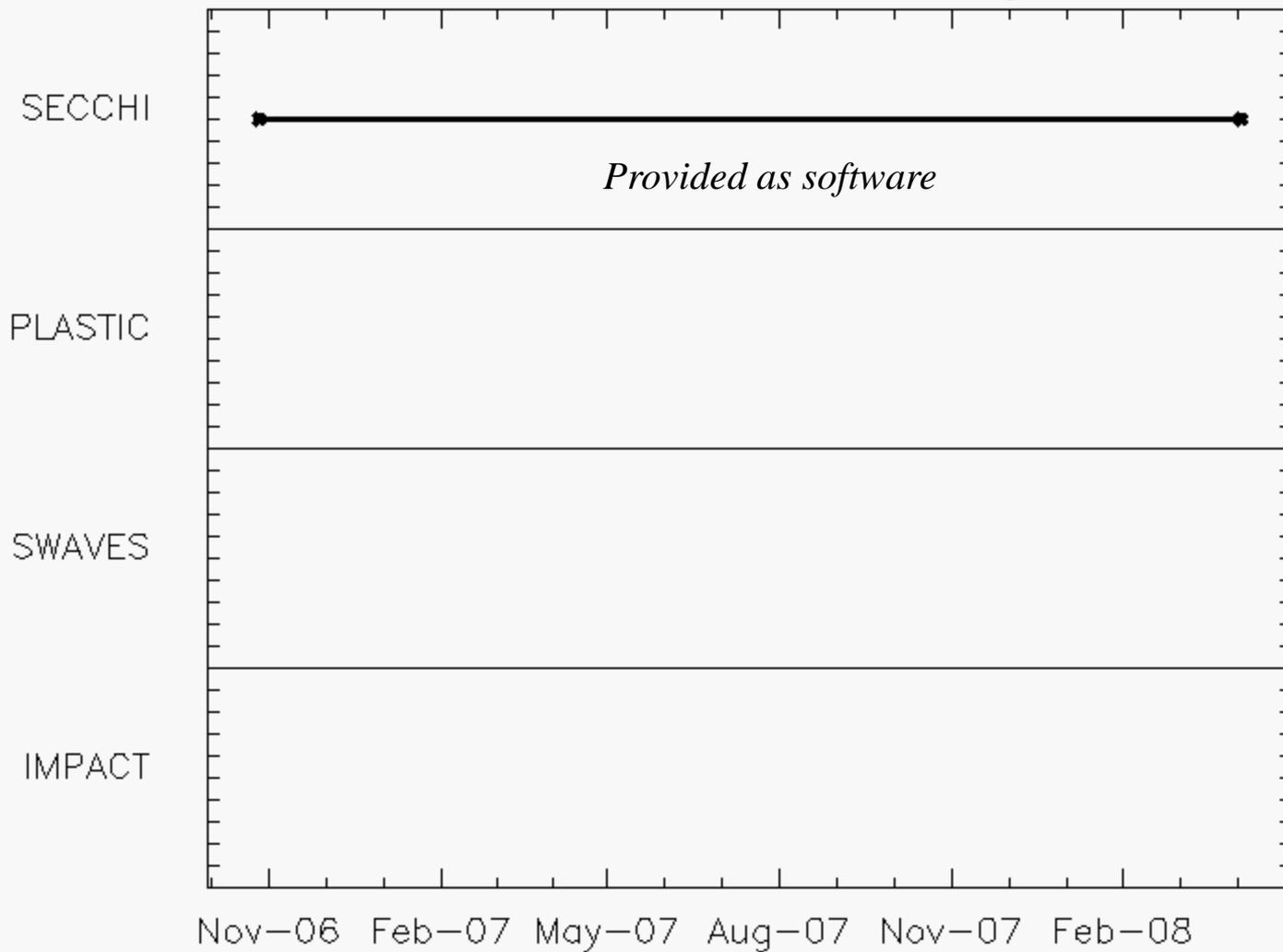
Level-1 Data Availability



Level-2 Data Availability



Level-3 Data Availability



Instrument Data Pages

Instrument Data Pages

- SECCHI
 - [SECCHI Flight Images Database](#)
- IMPACT
 - [IMPACT Data Browser](#)
 - [IMPACT Primary Data Site](#) (includes software links)
 - [IMPACT LET ASCII Data](#) (plus [Orbit/Attitude](#) ASCII data)
 - [IMPACT HET ASCII data](#)
 - [IMPACT Magnetometer ASCII Data](#)
 - [Heliocentric Phase](#)
 - [Earth Orbit Phase](#)
- PLASTIC
 - [PLASTIC Browse Data](#)
 - [PLASTIC Data Plots](#)
 - [Solar wind proton bulk parameters](#)
 - [PLASTIC merged with IMPACT/MAG](#)
- SWAVES
 - [SWAVES Daily Summary Plots](#)
 - [Centre de Donnees de la Physique des Plasmas](#)

- Split off list of instrument data pages as a separate page
- Lists all data pages currently known
- Need to know what data should be archived within SSC

Beacon Status

- Receive beacon telemetry from England, Japan, and France on a regular basis.
 - Toulouse station recently added
 - Not certain about continued funding for station in England
 - Wallops tracking is top priority—paperwork is main delay
 - NOAA examining link margins for extended mission
- All SECCHI telescopes are now included in the beacon pages.
- SWAVES radio plots are now generated in realtime.
 - However, the daily browse plots are still dependent on level-0 processing.

Science Publication Database

- The STEREO publication database is now online.
- Contains published papers *only*.
- Links to online versions of the papers from the publishers
- Send new entries to C.Alex.Young @nasa.gov

STEREO SCIENCE CENTER
SSC

NASA

HOME CONTACT SITE MAP

STEREO Publication Database

[Database Home](#) | [Show All](#) | [New Search](#)

1-5 of 46 records found matching your query ([RSS](#)): [Login](#)

Search within Results: Exclude matches

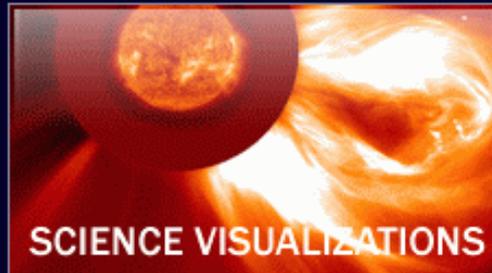
Display Options: 5 records per page

[Select All](#) [Deselect All](#) << 1 2 3 4 5 6 7 8 9 10 >>

<u>Author</u>	<u>Title</u>	<u>Year</u>	<u>Publication</u>	<u>Volume</u>	<u>Pages</u>	<u>Links</u>
■ Cattell, C.; Wygant, J.R.; Goetz, K.; Kersten, K.; Kellogg, P.J.; von Rosenvinge, T.; Bale, S.D.; Roth, I.; Temerin, M.; Hudson, M.K.; Mewaldt, R.A.; Wiedenbeck, M.; Maksimovic, M.; Ergun, R.; Acuna, M.; Russell, C.T.	Discovery of very large amplitude whistler-mode waves in Earth's radiation belts	2008	Geophysical Research Letters	35	01105	→
■ Vourlidas, A.; Davis, C. J.; Eyles, C. J.; Crothers, S. R.; Harrison, R. A.; Howard, R. A.; Moses, J. D.; Socker, D. G.	First direct observation of the interaction between a comet and a coronal mass ejection	2007	Astrophysical Journal	668	L79-L82	→
■ Peticolas, L.M.; Craig, N.; Kucera, T.; Michels, D.J.; Gerulskis, J.; Macdowall, R.J.; Beisser, K.; Chrissotimos, C.; Luhmann, J.G.; Galvin, A.B.; Ratta, L.; Drobnes, E.; Méndez, B.J.; Hill, S.; Marren, K.; Howard, R.	The Solar Terrestrial Relations Observatory (STEREO) Education and Outreach (E/PO) Program	2007	Space Science Reviews			→

Gallery

STEREO Gallery



- A lot of work has been done on the STEREO gallery
- We encourage everybody to send us your best stuff
- Should also inform us of upcoming press releases

i.e. Mike, Rani

Future Work

- Beacon processing:
 - Real-time ASCII files. (*Need software from IMPACT team.*)
- Customized search pages for VSO database
 - Search on individual instruments within suites
 - Already exists in IDL VSO software
 - SECCHI object-oriented wrapper will automatically retrieve files through VSO
- Daily summary images/plots:
 - Reach into instrument browse pages