



STEREO

Science Working Group

Meeting No. 20

2009 October 27 - 29
Meredith, New Hampshire



Agenda update (if needed)



“End of Prime Mission” Review

- NASA HQ, 2009 November 12
- Reviewers included: Elsbernd (briefly), Hayes, Newmark, Posner (had to leave early)
- They wanted to see the mission be fully successful
 - So we are
 - Thanks to all the teams for their inputs
 - Thanks to APL crew for contributing so much to our success (and not just at the review)
 - The US Office of Management and Budget is satisfied



Senior Review

- Proposal submitted Monday, March 8
 - ▶ Thank you! for all your input and proofreading
- Oral presentation Wednesday, April 21 (PM)
 - ▶ Toni, me, ... and lucky third winner to be named later
 - ▶ Can always use input
 - New science stories (e.g. papers not yet accepted)
 - instrument, spacecraft, ground system changes (if any)



Publications (2009): Special Issues

- Solar Physics special issues
 - ▶ First double volume in 2009 May
 - 28 articles
 - ▶ Second double volume in 2009 October
 - 23 articles
- Annales Geophysicae (workshop) special issue
 - 25 articles



Publications (bean counting)

- The current senior review is focusing on value for money
- Our publication record is very good, thanks largely to the Solar Physics and Ann. Geophys. special issues
- Expect the same value estimation to be used in future senior reviews
- We should have plenty of solar activity about which to write papers in the next two years
- We are porting the STEREO publication database to the same platform used by SOHO (more secure)



STEREO Science News Stories

- NASA and the public have an insatiable appetite for interesting science stories
 - ▶ Good visualizations help
 - We work for the government and we're here to help
 - We do have professional help with visualization
 - ▶ Stories in “embargoed” journals (*Science* and *Nature*) are dear to NASA's heart, but any reputable journal will do
 - Can result in a NASA Space Science Update, with a press conference at NASA HQ (if judged by Heliophysics management and NASA Communications to be worthy of this treatment)
 - Can handle at Goddard as well
 - NASA portal page, What's New, &c.



STEREO Science News (2)

- Handheld media
 - ▶ Tony Phillips's 3D Sun app for iPhone/iPod touch
 - ▶ CompanionLink/SOHO example (~ 300,000 hits/day)
- Not science
 - ▶ UFO fans ♥ artifacts in EUVI beacon mode images
 - Combined with overly verbose firewall logging, managed to jam our SSC and/or public outreach Webserver repeatedly in February/March
 - Added resources (server, memory)
 - Load balancing: distributed most frequently requested images among servers
 - ICER s/w license → Web page with simple demos



Financial status

- February 1 - September 30: team funding cut to ~ 75% of FY09 level
- 2010 October 1 and beyond: ~ 50 - 55% of FY09 level
- Contract extension status
 - ▶ IMPACT, PLASTIC contracts modified
 - ▶ SECCHI - interagency agreement modified
 - ▶ SWAVES - grant



Financial status (II)

- But... we live in interesting times

FY 2011 Budget Request

Budget Authority (\$ millions)	FY 2009 Actual	FY 2010 Enacted	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
FY 2011 President's Budget Request	204.7	173.0	166.9	165.4	168.7	172.9	172.9
Heliophysics Research and Analysis	31.5	31.0	31.7	32.2	33.0	33.8	34.2
Sounding Rockets	45.1	65.3	48.9	49.7	51.8	53.0	53.8
Research Range	32.3	19.2	19.6	20.1	20.6	21.1	21.4
Other Missions and Data Analysis	95.8	57.5	66.7	63.4	63.4	65.0	63.5
FY 2010 President's Budget Request	195.9	178.6	178.1	183.1	190.6	194.3	--
Heliophysics Research and Analysis	31.0	35.4	38.4	39.1	40.1	41.1	--
Sounding Rocket Operations	77.4	66.5	67.5	68.9	71.4	73.1	--
Other Missions and Data Analysis	87.5	76.7	72.3	75.1	79.1	80.1	--
Changes from FY 2010 Request	8.8	-5.6	-11.2	-17.7	-21.9	-21.5	--



Future meetings

- SWG 21
 - ▶ Dublin, Ireland (Trinity College to host)
 - ▶ 2010 March 22 - 26
 - ▶ Invite local solar and heliospheric community to participate
 - ▶ Peter Gallagher and James McAteer
- Proposal to hold joint STEREO-SOHO SWG and workshop in Kiel in 2011
 - ▶ Bernd Heber and Berndt Klecker
- Frequency
 - ▶ Extended mission, lower travel budgets: one per year enough?



EoPM review agenda

- Thursday, November 12 at NASA HQ
- Presentations
 - ▶ Mission overview [15 min]
 - ▶ Systems and engineering aspects of ops [45 min] (Ron)
 - How did these affect science [10 min] ← **Need input**
 - ▶ Foreign partnerships [15 min]
 - Issues? ← **Need input**
 - ▶ Science overview [10 min]
 - How did we get to full completion of Level 1 requirements (less 2)
 - 3 or 4 examples [20 min] ← **Need input**
 - 2 counterexamples [5 min] ← **Need input**
 - ▶ Financial overview [10 min] (SSMO)
 - ▶ Quick summary [10 min]



STEREO Level 1 Science Requirements

Scientific Objective	Measurement Required	Progress
Causes & mechanisms of CME initiation	CME initiation to 10 minutes	Over <i>nnn</i> CME's observed. Full reconstruction on <i>mm</i> . Many more still to be analyzed.
	Location of initiation to 5°	
Characterize CME propagation	Evolution of mass and longitude extent to within 5°	
	Speed to within 10%	
	Direction to within 5°	
Mechanisms & sites of energetic particle acceleration	SEP distribution functions to 10%	
	Location of particle acceleration to 0.5R _{Sun} or within 20°	
3-D, time-dependent model of solar wind	Time series of temp. to 10%	Continuous
	Time series of density to 10%	
	Time series of speed to 10%	
	Magnetic field direction to 10°	