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

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<td>Changes from FY 2010 Request</td>
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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

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<tr>
<th>Scientific Objective</th>
<th>Measurement Required</th>
<th>Progress</th>
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<tr>
<td>Causes &amp; mechanisms of CME initiation</td>
<td>CME initiation to 10 minutes</td>
<td>Over $nnn$ CME's observed. Full reconstruction on $mm$. Many more still to be analyzed.</td>
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<td>Location of initiation to 5°</td>
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<td>Characterize CME propagation</td>
<td>Evolution of mass and longitude extent to within 5°</td>
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<td>Speed to within 10%</td>
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<td>Direction to within 5°</td>
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<tr>
<td>Mechanisms &amp; sites of energetic particle acceleration</td>
<td>SEP distribution functions to 10%</td>
<td>Only 1 CME event this far; $nn$ CIR’s</td>
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<td>Location of particle acceleration to $0.5 R_{Sun}$ or within 20°</td>
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<td>3-D, time-dependent model of solar wind</td>
<td>Time series of temp. to 10%</td>
<td>Continuous</td>
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<td>Time series of density to 10%</td>
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<td>Time series of speed to 10%</td>
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<td>Magnetic field direction to 10°</td>
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