Minutes of the 24th SOHO SWT Meeting

Goddard Space Flight Center, Greenbelt, MD

16 October 1997

Contents

1 Action Items and Resolutions SOHO SWT–24

Action 24-1: on MDI to reply to the proposed roll steering law update scheme. Input to PS before End of October.

Action 24-2: on EIT to submit by e-mail detailed proposal for S/C off-pointing.

Action 24-3: on Phil Judge to provide formal JOP on "SOHO Coronal Observations in Support of the Feb 26 1998 Eclipse". (already closed on 23 October)

Resolution on Increase of MDI Continuous Contacts:

> When TRACE begins observing the Sun early next year, it is extremely desirable to have MDI magnetic observations coordinated with it for extended periods. A second continuous period of the extra telemetry is requested for a each month, with duration of 5-days "guaranteed" and continuing up to 10 days on a "best effort" basis, with some gaps allowed.

2 Agree Agenda and Actions Revision

Agenda — annex 1

List of Participants — annex 2

After V. Domingo's welcome address, A. Poland had the pleasure to inform the SWT that NASA had been selected by the Federation Aeronautique Internationale (FAI) to receive the Honorary Group Diploma in Astronautics for 1997. The citation accompanying the Diploma reads:

> "For their successful launch of the Solar and Heliospheric Observatory (SOHO), which is providing scientists the first long-term, uninterrupted view of the Sun."

Congratulatory letters by Daniel S. Goldin and Wesley T. Huntress are attached in annex 3.

K.-P. Wenzel had some more good news. He informed the SWT that Cassini/Huygens was successfully launched on 15 October at 4:43 EDT, to the great relief of both NASA and ESA. Cassini/Huygens will arrive at Saturn in 2004 after a 7 years journey through the solar system, including several gravity assists. As of 17 October, the status of the Cassini spacecraft is excellent and the mission is proceeding nominally as planned.

Actions revision

Action 23-1: closed
on PIs to respond immediately to Alan Title (title@nice.space.lockheed.com) regarding the NASA Senior Science Review proposal (with cc to Art).

3 Spacecraft Status

H. Schweitzer and J.-P. Olive gave a report on the spacecraft status (see annex 4). The main conclusions are:

- The SOHO spacecraft is in perfect health
- No redundancy is used

- No open anomalies
- The resources are intact (power, fuel)

In order to simplify operations and reduce operations costs a proposal has been put forward by the FOT to reduce the number of roll steering law table updates. Presently, we have a table now with 400 entries, having 3 days worth of roll steering law data, covering 1 day plus 2 days autonomy for contingencies. With this resource, the spacecraft rolls every 11 minutes a max. (March and September) of approx. 3.5 arcsec (requirement on roll stability is 20 arcsec). It is proposed to increase the period to 22 min., making the table good for 4 days, but the roll steps are 7 arcsec in March/September, less in other months. FDF is presently checking, whether we can have guide stars for a four day time span. Question to the PIs was: can your observations tolerate a spacecraft roll of e.g. 7 arcsec every 22 min? Nobody present at the meeting anticipated a problem with that, but MDI would like to investigate it in more detail. There is an action on MDI to reply to the proposed roll steering law update scheme before end of October (Action 24-1).

4 ISTP Re-engineering Status

Ron Mahmot gave an update of the status of the ISTP re-engineering efforts (see annex 5).

5 ACE Status Update

Jonathan F. Ormes, ACE Project Scientist, gave an update of the ACE mission (see annex 6). The SOHO teams congratulated the ACE team and are looking forward to fruitful collaborations in the future.

6 TRACE Status Update

Ted Tarbell gave an update of the TRACE mission (see annex 7). Presently, the launch date is 20 March 1998. It is quite likely, however, that the launch will move forward to the 15 February slot. T. Tarbell stressed what excellent experience it was to have only one instrument on the S/C. The instrument was built and delivered in just over 2 years.

7 Status of Instruments and Main Scientific Achievements

— see annex 8

8 Science Priorities for the Next 6 Months

CDS: R. Harrison presented the CDS plans for the next couple of months (see annex 9).

SUMER: eclipse, 90° roll in early summer next year

UVCS: studies of the response in the extended corona to events at its base; joint campaign with CDS to study MHD waves (→ ion cyclotron heating?)

MDI: high cadence dynamics

EIT: requested off-point of 10 to 20 arcmin after next MDI 3 months continuous. Action on EIT to submit detailed proposal to SWT by e-mail (Action 24-2).

P. Judge presented the HAO-NSO eclipse experiment to determine coronal magnetic fields. Supporting observations by CDS, EIT and MDI will be invaluable when they attemp to invert the observations of emission line parameters to produce vector magnetic field measurements in the corona. There is an action on Phil Judge to provide a formal JOP (Action 24-3).

There was broad agreement to give highest priority to joint campaigns with TRACE once it's up and working. Everybody is encouraged to submit JOPs involving SOHO instruments and TRACE.

9 Future S/C Manoeuvres and Operations

SOHO and ISO conflict for the utilization of Goldstone

DSN has confirmed that there is *no* conflict supporting both the 24 hours continuous contact of SOHO and the extended ISO mission beginning of next year.

MDI continuous for TRACE

R. Bush presented the MDI high rate telemetry requirements (see annex 11). Concerning extended magnetogram support during the prime period of TRACE, the SWT agreed on the following resolution:

> When TRACE begins observing the Sun early next year, it is extremely desirable to have MDI magnetic observations coordinated with it for extended periods. A second continuous period of the extra telemetry is requested for a each month, with duration of 5-days "guaranteed" and continuing up to 10 days on a "best effort" basis, with some gaps allowed.

MEDOC campaigns

V. Domingo presented Alan Gabriel's e-mail from 15 October:

> Vicente,
>
> I suppose I might also have a vote on the Medoc campaign issue ? If so, my position is :
>
> The coordination with European ground-based observatories was always one of the justifications, but not the only one, nor perhaps the principal one.
>
> The real argument, often stated, was to bring SOHO to a larger community of younger people who could not reasonable find the resources to go to the EOF. If this succeeds (and it did for the first campaign) then it is of benefit to all of SOHO.
>
> The concern is to ensure that this activity does not damage the EOF work. I find it difficult to imagine that 5 weeks total out of 52 weeks could cause such damage. Also, if I reflect honestly, a cannot see that this short period of MEDOC activity has had any influence against scientists attending the EOF.
>
> Finally, I think we should ask people to be a little fair. SOHO is not an all USA mission and it is not unreasonable for the EOF to forego some small percentage of time in order to repay some of the considerable European investment. I hope the SWT can find some sense in these arguments.
>
> Regards,
>
> Alan Gabriel

V. Domingo and A. Poland in principle agreed with these points. There is, however, a clear lack of information, both within the immediate SOHO teams and within the European solar physics community. In order to bring new people in, the MEDOC campaigns should be widely advertized, e.g. through SOHONEWS and/or SOLARNEWS. Further, a detailed plan has to be presented to the SWT clearly describing what should be done during the next campaign.

J. Gurman, in line with remarks from the last SPWG meeting conveyed by P. Martens, commented that the MEDOC campaigns are too difficult from an operations point of view. People often were asking things which were physically impossible. The numbers of objectives should be kept small (keep it simple!).

The SWT agreed that the Project Scientists send a letter to MEDOC clarifying these issues. The following letter was sent on October 21 to J.-C. Vial and A. Gabriel:

> MEDOC campaigns
>
> The SWT agreed that we send you a letter with the following points:
>
> We consider that it is very valuable for the solar research community to allow younger people, and those who do not have the resources to come to the U.S., the opportunity to participate in SOHO operations. MEDOC is an excellent opportunity to encourage and allow this to happen. Therefore the SWT considers that operations from MEDOC should continue to be done with a reasonable frequency, say two times per year.
>
> The MEDOC operation does put an increased work load on the staff at the EOF. For this reason future MEDOC campaigns must be more clearly defined from a scientific viewpoint well before (2 months) the campaign is scheduled. We feel that it would be appropriate for MEDOC, the SOHO PIs, and the Project Scientists to advertise to the European solar community the times that one would like to have a MEDOC campaign. We should get VERY BRIEF (1 paragraph maximum) proposals from people stating what science observing programs they wish to do from MEDOC and who will come to MEDOC to run those campaigns. We can then schedule a MEDOC campaign based on these proposals. This would make the extra work at the EOF worth the effort.
>
> Yours,
> Vicente and Art
> SOHO Project Scientists

SUMER telemetry re-allocation

Proposal for Routine Procedure for Submode Changes (L. Allen/P. Martens):

Table 1: Instrument Packets

Submode	#5	# 6
CDS	72	72
LASCO/EIT	36	72
SUMER	48	0

- Team sends “Remote Procedure Request” (RPR), an informational message, sent just like a command, through the NRT link to the FOT console operators.

- This tells the console personnel to run a procedure (e.g.):
  - Pause the NRT link
  - Check to see if the SSR is dumping (a big no no)
  - Switch to the appropriate submode
  - Re-enable the NRT link
- This does not eliminate need for coordination at daily meeting
- Initially SOC will only allow this procedure between submode 5 and 6 (involving only two teams), and during experiment operator presence

10 Outcome of NASA Senior Science Review

The report of the Senior Review panel that reviewed all NASA "Sun-Earth Connection" missions, including SOHO, is available on the World-Wide Web in a variety of formats at: http://www.hq.nasa.gov/office/oss/strategy/SEC_review/index.htm
The review was very positive and the situation looks quite promising. The budget for 1998 seems to be ok. The 1999 budget will not be known before fall next year.

11 GI Programme

- Received: 53 proposals, 4 non-US
  - 14 high corona
  - 27 low corona
  - 11 interior
  - 15 multi-instrument
- Proposals first to involved PI's for evaluation
- European GISC members have been selected
- Panels: 12-14 November

12 Status of SOHO Archive

L. Sanchez presented the status of the SOHO archive (see annex 12).

13 PR Issues

Next NASA SSU on 5 November. Topic: The Sun's Magnetic Carpet. Panel members: M. Hagenaar, J. Gurman, E. Spiegel (Columbia Univ.).

V. Domingo informed the SWT that ESA will contract a free-lance writer to popularize SOHO results. Also, ESA is working on a SOHO results poster and a CD-ROM. One of the bidders (RecButton from Finland) who happened to be at GSFC this week gave a presentation how this CD-ROM could look like.

14 Publications

B. Fleck gave a brief report on the status of SOHO publications (see annex 13). There are numerous SOHO papers in conference proceedings. Publication in refereed journals is picking up, in particular in *ApJ*. One journal where SOHO is not adequately represented is *Astronomy & Astrophysics*. People are encouraged to submit papers also to *A&A*.

The special *Solar Physics* issue "The First Results from SOHO" will appear end of October. The slight delay was caused by technical problems with color figures of some papers and the enormous size of the volume (598 pages plus CD-ROM). For a list of the 31 papers see annex 13.

S. Gibson and D. Biesecker informed the SWT that the Whole Sun Month group agreed to publish results from the Aug/Sep 1996 campaign in a *JGR* Special. They expect about 30 papers to be submitted. Deadline for submission is 1 March 1998. In addition, they intend to submit 5 summary articles for a *Science* special. Deadline is also 1 March 1998.

People are reminded to update the SOHO bibliography database on the Web (either e-mail to B. Fleck or G. Dimitoglou or directly using the new Input Record Facility).

15 Meetings and Workshops

B. Fleck presented the list of meetings from the SOHO web pages (see annex 14)

J. Kohl offered to organize the 7th SOHO Workshop. Topic will be: "Coronal Holes and the Fast Solar Wind". Tentative date and location: fall 1998 somewhere in New England. The reaction by the PI teams was very favourable, despite the many meetings already scheduled for next year. All relevant teams expressed great interest and thanked John for this initiative.

H. Kunow announced that he might organize a workshop on particles and CMEs in spring 99.

16 New SWT Meeting Cycle

Poll on preferred SWT meeting cycle yielded the following results (numbers given are SWT meetings per year):

GOLF	VIRGO	MDI	SUMER	CDS	EIT
4	2	2	2	2	2
UVCS	LASCO	SWAN	CELIAS	COSTEP	ERNE
3	2	2	2	3	2

It was therefore agreed to have in the future 2 SWT meetings per year, with the caveat that many details are handed over to the SPWG with approval by the SWT by e-mail.

17 AOB

Next SWT meeting: 27/28 April at RAL.
Fall meeting on 15/16 October at GSFC.

Annex 1: Agenda

Annex 2: List of Participants

Annex 3: FAI Award for SOHO

Annex 4: Spacecraft Status (H. Schweitzer & J.-P. Olive)

Annex 5: ISTP Re-engineering Status Report (R. Mahmot)

Annex 6: Advanced Composition Explorer ACE (J.F. Ormes)

Annex 7: TRACE Status Update (T. Tarbell)

Annex 8: Instruments Status

GOLF (J. Charra)

VIRGO (C. Froehlich)

MDI (R. Bush)

SUMER (A. Poland)

CDS (R. Harrison)

EIT (J. Gurman)

UVCS (J. Kohl)

LASCO (R. Howard)

SWAN (E. Quemerais)

CELIAS (P. Bochsler)

COSTEP (H. Kunow)

ERNE (J. Torsti)

Annex 9: CDS Plans (R. Harrison)

Annex 10: 1998 HAO-NSO Solar Eclipse Campaign (P. Judge)

Annex 11: MDI High Rate Telemetry Requirements (R. Bush)

Annex 12: Status of the SOHO Archive (L. Sanchez)

Annex 13: Publications (B. Fleck)

Annex 14: Meetings and Workshops (B. Fleck)

Annex 15: Agenda SWT-24 Science Workshop