Minutes of the 29th SOHO SWT Meeting

Goddard Space Flight Center, Maryland, USA

21 October 1999

Contents

1 Welcoming Address

Bernhard Fleck welcomed the attendees.

He introduced ESA SOHO Program Manager Michel Verdant, who commented on the fact that the staffing of the Program Office is now complete and that the project now has 3 resident ESA/MMS engineers, H. Schweizer, J.-P. Olive, and M. Chaloupy.

B. Fleck also welcomed the new ESA Science Operations Coordinator for SOHO, Stein Vidar Hagfors Haugan.

2 Action Items

Action 29-1:
On PIs: Appoint contact persons for planning of joint SOHO-HESSI observations.

Action 29-2:
On SOCs: Collect and coordinate plans for joint SOHO-HESSI observations.

3 Agree Agenda and Action Revision

No changes to the agenda (see annex 1). List of attendees - annex 2.

Actions Revision

Action 28-1: Open
On European PIs: All the instrument teams are required to check if their flight software and ground software is Y2K compatible. The US PIs have already done this. The European PIs are requested to report back to L. Sanchez before mid July.

Current status:

- VIRGO, SUMER, EIT, CELIAS, CEPAC, SWAN: √
- GOLF: Flight S/W: √, Ground S/W: Tests ongoing
- CDS: Flight S/W: √, Ground S/W: Upgrade underway

Action 27-1: Closed
On PIs to provide input to what the instruments plan to do during the Mercury transit.

Action 27-3: Closed
On EIT team to provide documentation on their roll determination method by end of March.

4 Spacecraft status

M. Verdant first noted the fact that the Gyroless commissioning had been successfully completed, and the spacecraft is now believed to be in a safer configuration than ever before.

J.-P. Olive and H. Schweizer presented the spacecraft status (annex 3), including main events since last SWT, system/subsystem status, and solar array degradation.

5 Gyroless Mode of Operation

J.-P. Olive and H. Schweizer described the principles behind the new Experiment Offpointing flag, the operation of the new Coarse Roll Pointing mode, and the automatic switch-over of guide stars. The commissioning tests of the Coarse Roll Pointing mode indicates that the spacecraft can safely stay for several days in this mode (annex 4).

J.-P. Olive then presented the first plans for the Leonids (annex 5). It was agreed to move the presentation by J. Rowe on the Leonids to this section of the meeting.

6 Leonids/Spacecraft plans

John Rowe gave a presentation on the expectations for the 1999 Leonids and the planned spacecraft activities in preparation thereof (annex 6).

7 Ground System Status

Ed Nace presented the ground system status (see annex 7).

He thanked the PIs on behalf of the FOT for their support during the last months. K. Wilhelm returned the thanks on behalf of the PIs.

8 Instrument status

The PIs presented the status of their instruments (see annex 8).

8.1 MDI (P. Scherrer)

MDI is operating nominally, and the mechanisms show no signs of wear.

8.2 SUMER (P. Lemaire)

(see annex 8-1)

8.3 CDS (A. Fludra)

(see annex 8-2)

8.4 EIT (J.-P. Delaboudiniere)

(see annex 8-3)

8.5 UVCS (J. Kohl)

(see annex 8-4)

8.6 LASCO (R. Howard)

(see annex 8-5)

8.7 SWAN (E. Quemerais)

SWAN has experienced no change in operations since 1998. Some ACU resets have occured, but not at any unexpected rate. SWAN has demonstrated the ability to point out active regions on the backside of the Sun.

8.8 CELIAS (F. Ipavich)

(see annex 8-6)

8.9 COSTEP (H. Kunow)

(see annex 8-7)

8.10 ERNE (J. Torsti)

(see annex 8-8)

8.11 VIRGO (no representative)

C. Fröhlich had apologized for being unable to attend. For VIRGO's status see annex 8-9.

8.12 GOLF (no representative)

A. Gabriel had apologized for being unable to attend. For GOLF's status see annex 8-10.

9 Joint SOHO/HESSI Science Workshop

B. Lin welcomed the SOHO SWT participants to the joint workshop.

9.1 HESSI (Bob Lin)

HESSI is a Small Explorer (SMEX) mission focussed on hard X-/γ-ray radiation as a signature of particle acceleration processes in flare-related events. It has a temporal resolution of 10 ms, without imaging optics but with a grid modulation mechanism to provide image reconstruction.

HESSI will be very much in need of context imaging from other missions (SOHO, TRACE) and/or ground based observatories. Science data will be accessible to the community immediately after aquisition. Operations will be simple, running autonomous full sun imaging.

See also `http://hesperia.gsfc.nasa.gov/hessi/`.

9.2 SOHO & Flares (J. Gurman)

An overview of the operational constraints of SOHO with respect to flare observations. Particular emphasis on the fact that SOHO is a multi-instrument spacecraft with quite limited telemetry (annex 9).

9.3 Max Millennium (D. Canfield)

Presented an overview of the Max Millennium project, which is mainly a web-based coordination effort to cater for the needs of context imaging for the HESSI mission. The emphasis is to have a short turn-around time suited for flare observations.

See `http://solar.physics.montana.edu/max_millennium/` for more information on the project.

9.4 Open discussion

A discussion on various possibilities for cooperation between SOHO, HESSI, and TRACE ensued, highlighting the need for pre-planning of operations due to the complex nature of SOHO operations. It would also be beneficial to perform test runs of cooperation campaigns.

It was agreed that SOHO PIs should appoint a contact person for each instrument, and that plans for coordinated observations should be worked out under the coordination of the SOHO SOCs (actions 29-1 and 29-2).

Brian Dennis[1] was appointed as the local contact for HESSI.

10 Leonids & Mercury Transit/Instrument plans

B. Fleck presented the ESA recommendations for the 1999 Leonids (annex 10). After discussing the various aspects of instrument safety and hazards, it was agreed that instruments are to confirm their plans for the Leonids/Mercury transit to SOCs by 29 October 12 noon local time.

11 Future Spacecraft Maneuvers

B. Fleck raised the question of allowing future *science driven* spacecraft maneuvers, now that SOHO appears to be more robust than ever since launch.

SWAN, SUMER and MDI voiced some interest in performing maneuvers.

It was pointed out, however, that during a maneuver some of the extra safety nets currently provided (e.g. star swapping, fallback into Coarse Roll Pointing mode) would not be effective during maneuvers, since roll control would already have been transferred to the Coarse Roll Sensor.

It was nevertheless concluded that one would again consider *strong* scientific cases for spacecraft maneuvers against the risk posed by temporary loss of some of the extra safety features. Although proposals will be accepted and evaluated, they are not encouraged.

[1] `dennis@stars.gsfc.nasa.gov`

12 Telemetry Submode Changes

B. Fleck presented the case for using Submode 4 [SUMER high rate] which allows SUMER to read out larger portions of their detector for a given cadence (annex 11). SUMERs detectors degrade with exposure, so it is highly desireable to read out as much as possible of the exposed parts of the detector. The use of Submode 4 will be decided on a case by case basis in the future, based on requests from SUMER.

13 Status & Demonstration of SOHO Archive

Due to technical problems, a demonstration of the archive was not possible.

The SUMER archive data formats (2 data sets, binary + fits) were discussed, with some complaints that the data supplied in fits files were not complete. In order to get complete data sets, the telemetry files have to be processed and the data supplied in IDL save files.

P. Scherrer informed about the availability of MDI data through their web pages.

Data from *all* instruments up to June 1998 are now available to the public.

14 Innovations

B. Fleck forwarded some questions/comments from R. Harrison on the operation of SOHO (see annex 12).

In particular, inter-instrument flags were discarded as not feasible, however a closer interaction between e.g. EIT and CDS was encouraged for more [near] real-time pointing of observations.

Also, the desire of reviving the scientific content of the daily and/or weekly meetings was discussed. The lack of Science Operations Leaders lately is due to a lack of willing candidates, not any reluctance to have SOLs. Volunteers are strongly encouraged!

On the question of whether SOHO was achieving its goals with the current mode of operation, it was pointed out that we may want to look at new goals in addition to any pre-launch goals not yet achieved.

Two questions may be helpful in focussing thoughts on this:

"If SOHO was lost tomorrow, which things will we regret not having done?" and "Are we achieving the *most* of SOHO, for the current *and future* scientific agenda", glimpsing into the future possibilities of e.g. confronting complex, multi-instrument observations with high-resolution, large-scale [numerical] models.

15 MEDOC Campaigns

I. Scholl presented a summary of MEDOC Campaign #4, and proposed dates for MEDOC Campaigns #5 and #6 (see annex 13). Final dates for these campaigns are to be worked out with K. Wilhelm, P. Lemaire and J.C. Vial to be coordinated with SUMER observing periods.

16 Future PR and Outreach Activities

P. Brekke reported on the progress of the SOHO slide set and the SOHO CD-ROM, both to be available soon. He also demonstrated a working copy of the SOHO CD-ROM.

Input from PIs for future press releases is more than welcome.

17 Workshops and Meetings

A list of known meetings can be found in annex 14. See `http://sohowww/meetings/` for updates.

A preliminary programme for IAU Symposium 203 can be found in annex 15. H. Kunow announced the 1st Elmau Workshop, March 27 - April 1, 2000 (see annex 16). For the joint SOHO–ACE Workshop 2001, see annex 17.

18 AOB

SWT-30 will be held on 23-24 March 2000, location either Lindau or ESTEC. SWT-31 will be held in conjunction with the IAU meeting in Manchester. Target date: Afternoon of Wednesday, 9 August 2000.

Annex 1: Agenda

Annex 2: List of Participants

Annex 3: Spacecraft Status

Annex 4: Gyroless Mode of Operation

Annex 5: First Plans for Leonids

Annex 6: SOHO and the Leonids – 1999

Annex 7: SOHO Ground System Status

Annex 8-1: SUMER Status

Annex 8-2: CDS Status

Annex 8-3: EIT Status

Annex 8-4: UVCS Status

Annex 8-5: LASCO Status

Annex 8-6: CELIAS Status

Annex 8-7: COSTEP Status

Annex 8-8: ERNE Status

Annex 8-9: VIRGO Status

Annex 8-10: GOLF Status

Annex 9: SOHO and Flares

Annex 10: ESA Recommendations for the Leonids 1999

Annex 11: Use of Telemetry Submodes

Annex 12: Innovations

Annex 13: MEDOC Campaigns

Annex 14: Meetings

Annex 15: Preliminary Programme IAU Symposium 203

Annex 16: 1st Elmau Workshop

Annex 17: Joint SOHO-ACE Workshop 2001