Minutes of the 34th SOHO SWT Meeting

Davos, Switzerland

10 March 2002

Table of Contents

1 Agree Agenda and Actions Revision 3
1.1 Action Items 3
1.2. Actions Revision 3
2 Mission Extension 4
3 Spacecraft Status 4
4 Ground System Status 4
5 SOC Report 5
6 Status of Instruments + Instrument Teams: 5
6.1. VIRGO 5
6.2. MDI 5
6.3 GOLF 6
6.4. SUMER 6
6.5. CDS 7
6.6. EIT 7
6.7. UVCS 7
6.8. CELIAS 8
6.10. COSTEP 8
7 PR and Outreach Activities 8
8 Workshops and Meetings 9
9 AOB 9
Annex 1: List of Participants 11
Annex 2: Agenda 13
Annex 3: ERNE Plot 15
Annex 4: Action 33-4 19
Annex 5: Spacecraft Status 21
Annex 6: Ground System Status 29
Annex 7: SOC Report 33
Annex 8-1: CDS 37
Annex 8-2: CELIAS 39
Annex 9: PR and Outreach Activities 41
Annex 10: Workshops and Meetings 51

1 Agree Agenda and Actions Revision

B. Fleck welcomed the attendees (see Annex 1). There were no changes to the agenda (see Annex 2).

1.1 Action Items

Action 34-1:
On PIs: Input for contingency turn-on scripts to be given to SOCs, with time estimates, including need for NRT.

Action 34-2:
On SOCs: Make a master turn-on plan based on contingency turn-on scripts and time estimates.

1.2. Actions Revision

Action 33-1: **Closed**
On Programme Office: To explore the possibilities of lowering ERNE temperatures with minimal impact on GOLF and VIRGO.

See Annex 3

Action 33-2: Closed
On PIs/SOCs: To define requirements and timetable for a roll manoeuvre, given availability of a fast roll mode.

Action 33-3: Closed
On PIs/instrument teams: Inform SOCs if any personnel should be alerted during off-hours in case of a Major Flare Alert.

See section 6.

Action 33-4: Closed (SH)/Open (PIs)
On S. Haugan/PIs: A template web page with links to instrument/data file information to be constructed, and filled out by instruments.

See Annex 4.

Action 32-4: Closed (LS)/Open (European archives)
On L. Sanchez/European archive administrators: Provide monthly usage statistics for archive sites.

See http://soho.nascom.nasa.gov/stats/byinstrument/

Action 32-5: Closed (SH)/Opened (L. Sanchez)
On S. Haugan: Coordinate automated SOHO instrument input to HESSI Flare Catalog with D. Zarro.

Changed: An input field to search for flare locations covered by archive observations will be added by L. Sanchez

2 Mission Extension

B. Fleck presented the ESA situation:
Support level will stay at the current level through March 2007. NASA wants to run SOHO through the initial phase of SDO, currently scheduled for launch in fall 2001.

J. Gurman presented the NASA situation:
Support goes on for 5 more years at reduced funding. The next senior review will be in 2003.

3 Spacecraft Status

B. Fleck presented the spacecraft status on behalf of the program office (Annex 5).

R. Bush asked if the substitution heaters not turning on after a warm reboot can be fixed.
Added after meeting: No, the heaters cannot be turned on automatically. However, the warm startup/thermal reconfig procedures are being reordered.

R. Bush asked if SOCs could make an instrument turn-on plan. (Action 34-2)
Emily Zamkoff said that the instrument teams should add to their contingency scripts the amount of time it will take them to recover in order to make the turn-on plan requested. (Action 34-1)

There was a general discussion on the status of the batteries, the recent ESR/warm startup and thermal reconfiguration problems.

4 Ground System Status

J. Gurman presented the ground systems status on behalf of R. Dutilly (see Annex 6).

R. Harrison asked when we would stop getting CD's; the answer is after the data on 1 February comes (*4 February was quoted incorrectly at the meeting*). The CDRs were produced in mid-March.

5 SOC Report

E. Zamkoff presented the status of HESSI co-observing plans:

JOP153 Major Flare Watch has been created to document the SOHO responses to a Major Flare Alert (see Annex 7 for a brief summary, or consult JOP153 on SOHO web pages). Until further notice, SOHO has committed 3 responses to Major Flare alerts.

Instruments' input for contingency turn-on scripts (Action 34-1) are due by the end of this month for all 3 cases: turn-on from LCL level, turn-on from internal shutdown level, and back to observing from standby/safe mode (see Annex 7 for further details).

A calendar outlook was presented (see Annex 7), and there was a discussion around the timing of the next manoeuvre versus the MEDOC campaign. Status per 1 April is that the manoeuvre will most likely be after the nominal two weeks of MEDOC campaign 9.

The target date for the offpoint is 15 August (backup on 13 August). Boundary conditions: The EIT and CELIAS/SEM calibration rockets will be during the first two weeks of August. SUMER/UVCS has star observations starting around 20 August, ending about 28 August. The offpoint will be done regardless of the EIT calibration rocket.

6 Status of Instruments + Instrument Teams:

6.1. VIRGO (Claus Frohlich)

VIRGO is nominal.
TSTOLs were changed after the recent turn-on.

6.2. MDI (Rock Bush)

MDI ran at ~100% duty cycle last year.

Front window degradation is causing focus changes; MDI can go 4 more focus stops before running out so no cause for concern. Shutter - the OP heater was turned down to decrease the front window temperature, all OP temperatures decreased by 5 degrees, the shutter open time dropped as expected but the repeatability of the exposures improved unexpectedly.

The plan is to change some operations but not to turn off for large periods of time. The observing sequence may be changed to only run for 30 seconds per minute when out of contact.

6.3 GOLF (A. Gabriel)

The mechanism positions moved slightly when turned on, so they are not stuck. The sensitivity has been decreasing as expected, but this is not critical.

There is a study being done to determine how to get 5 more years of lifetime before going to the backup system:

1) Should they change to the redundant channel and if so should it be done soon?

2) Should they change to the blue wing? This should be decided within 3 months.

The blue wing is thought to be superior because the calibrations match better, the red wing is more sensitive to activity.

All level 1 data will be transferred to the archive within a few weeks.

With certain assumptions (e.g. that g modes are continuous sine waves) they have lowered the upper limit for g modes to 6 mm/s - just submitted publication for this work that was done in combination with MDI. P mode observations continue.

6.4 SUMER (W. Curdt)

Werner Curdt is PI since 1 March 2002

Last year they did 2 flare campaigns and the roll campaign, plus 2 MEDOCs - in total they had 3 months of observing.

At the end of the year, the high voltage was at 255 for both detectors; there is still one step to go, but changing to the last step of the high voltage must be done "manually", not by software.

SUMER must be careful at picking the campaigns they support since they want to reach 2007. The operations philosophy has changed - no disk observations are allowed without express authorization by the PI.

The instrument is currently off but okay, and will turn on April 5 and do engineering (memory checks and scan mechanism checks), then a flare campaign.

They have found evidence of loop oscillations - dozens of examples.

SUMER data is online from the Lindau archive.

There are 60 virgin pixels since the slit is 300 arcseconds and the detector has 360 pixels. Only one side is accessible, so they really have 30 pixels. Using these pixels would give up spatial coverage, but fine for spectrographic work. To use these pixels, the slit would have to be shifted and the high voltage would have to be turned down - both of these have been successfully tested. It does not damage other parts of the detector if the high voltage is decreased.

There was a discussion with different views on whether SUMER should start using the virgin pixels right away, or wait until later.

6.5. CDS (R. Harrison)

See Annex 8-1.

Carol Jordan made a request for a target of operations JOP to observe equatorial coronal holes in He I 304 - this would require a submode change if SUMER was on, so discussions will be started between CDS and SUMER about this.

6.6. EIT (J.-P. Delaboudiniere)

Calibrations are going well and trends have been removed from the data.

The instrument is degrading slowly, mostly in the detectors. Now using more frequent and shorter bakeouts, and one can see the sensitivity increasing.

The offset is drifting by small amounts without anyone noticing. Showed some movies and said that 512x512 images are still useful.

EIT has a younger brother; Russian colleagues got EIT spares, launched it, and the data looks like EIT data but slightly out of focus. Their mode of operations is 304 60 times a day. The Project Scientist will write to the Russians regarding collaborations.

6.7. UVCS (J. Kohl)

There are 9 steps left in the high voltage supply – currently at 210 and the highest is 255 - so there is no concern.

The efficiency is unchanged. UVCS switched off the Ly-α channel in 1998 but is using the OVI redundant Ly-a channel.

The Delta Sco calibration was useful and demonstrates us that UVCS is stable. There is a variation to within 10%

One edge of the mirror may be degraded a bit – unknown at this time and under investigation.

UVCS agrees with Voyager observations to ~10% and agrees with FUSE observations.

Focus will be on:

> Supporting HESSI with 3 floating days per month, CH evolution, Ulysses quadrature, radio occultations, streamer studies, fast & slow solar wind, polar jets, global coronal dynamics, He focusing cone, comets, stars, streamer/CH studies.
>
> Doing lots of public outreach.

6.8. CELIAS (P. Bochsler)

Although the detectors of MTOF are degrading noticibly, MTOF is in good health and continues to provide good data. A high voltage problem encountered earlier, is apparently understood and under control.

STOF detectors are slowly loosing sensitivity too. However, we continue to obtain good data.

CTOF continues to work in the low voltage mode.

As an example of the surprising sensitivity of the proton monitor the CELIAS team could identify the roll manoeuvre and demonstrate that the solar wind was streaming by a few degrees off the ecliptic during the manoeuvre.

See also Annex 8-2.

6.10. COSTEP (H. Kunow)

Analysis is slower since there are fewer people – soon there will be a new director.

There is a new contract, joint with Ulysses, so there will be less money and fewer people. Contract lasts until 2004.

7 PR and Outreach Activities

P. Brekke presented PR and Outreach activites (Annex 9).

The first week in November is “Space Weather in Europe” week - do any PI's want to participate? Please give names of journalists to Paal for him to contact and cultivate a relationships.

J. Gurman announced that Steele Hill received an award for his public outreach work.

R. Harrison said that a new leisure complex near RAL has the CDS spectrum on the wall. He will send a picture of it to Goddard for the Hot Shot webpages.

UVCS has a new PA officer.

8 Workshops and Meetings

B. Fleck presented the current list of known workshops and meetings (see Annex 10 or http://soho.nascom.nasa.gov/meetings/).

The SOHO-12/GONG meeting was discussed.

A SOHO/Cluster meeting (ESLAB-37) was discussed – any volunteers for the LOC (see Annex 10).

There are plans to have a HESSI/SOHO/TRACE meeting next year.

9. AOB

The date of the next SWT meeting will be discussed by email.

Annex 1: List of Participants

Attendees SOHO SWT-34

Name	Institute/Experiment	Address
Andersen, B.	Norwegian Space Center/VIRGO	(bo.andersen@spacecentre.no)
Bochsler, P.	Univ. of Bern/CELIAS	Sidlerstr. 5, CH-3012 Bern (peter.bochsler@soho.unibe.ch)
Brekke, P.	ESA/RSSD	NASA/GSFC, Code 682.3 (pbrekke@esa.nascom.nasa.gov)
Bush, R.	Stanford University/SOI-MDI	HEPL Annex B212, Stanford, CA 94305-4085 (rbush@solar.stanford.edu)
Curdt, W.	MPAE/SUMER	(curdt@linmpi.mpg.de)
Delaboudiniere, J.-P.	IAS/EIT	Bât. 121, Univ. Paris XI, F-91405 Orsay Cedex (boudine@ias.fr)
Domingo, V.	Univ. Barcelona	(vdomingo@am.ub.es)
Fleck, B.	ESA/RSSD	NASA/GSFC, Code 682.3 (bfleck@esa.nascom.nasa.gov)
Frohlich, C.	PMOD-WRC/VIRGO	CH-7260 Davos-Dorf
Gabriel, A.	IAS/GOLF	Bât. 121, Univ. Paris XI, F-91405 Orsay Cedex (gabriel@ias.fr)
Gurman, J.	NASA/GSFC/EIT	(gurman@gsfc.nada.gov)
Harrison, R.	RAL/CDS	RAL, Didcot, Oxon, OX11 oQX, UK (r.Harrison@rl.ac.uk)
Ipavich, F.	Univ. of Maryland/CELIAS	Space Physics Group, Dept. of Physics, (ipavich@lism.usc.edu)
Kohl, J.	SAO/UVCS	SAO, 60 Garden ST, Cambridge, MA 02138, USA (jkohl@cfa.harvard.edu)
Kunow, H.	Univ. Kiel/COSTEP	Inst. für Exp. u. Angewandte Physik, Univ. Kiel, Leibnizxtr. 19, D-24118 Kiel (kunow@physik.uni-kiel.de)
Scholl, I.	IAS	IAS Bât. 121, Univ. Paris XI, F-91405 Orsay Cedex (scholl@medoc-ias.u-psud.fr)
Wenzel, P.	ESA/SCI-SO	ESTEC (kwenzel@estec.esa.nl)
Wilhelm, K.	MPAE	MPAE Lindau (Wilhelm@linmpi.mpg.de)
Zamkoff, E.	L3 Communications-Analytics Corporation/SOC	NASA/GSFC, Code 682.3 (zamkoff@socop1.nascom.nasa.gov)

Annex 2: Agenda

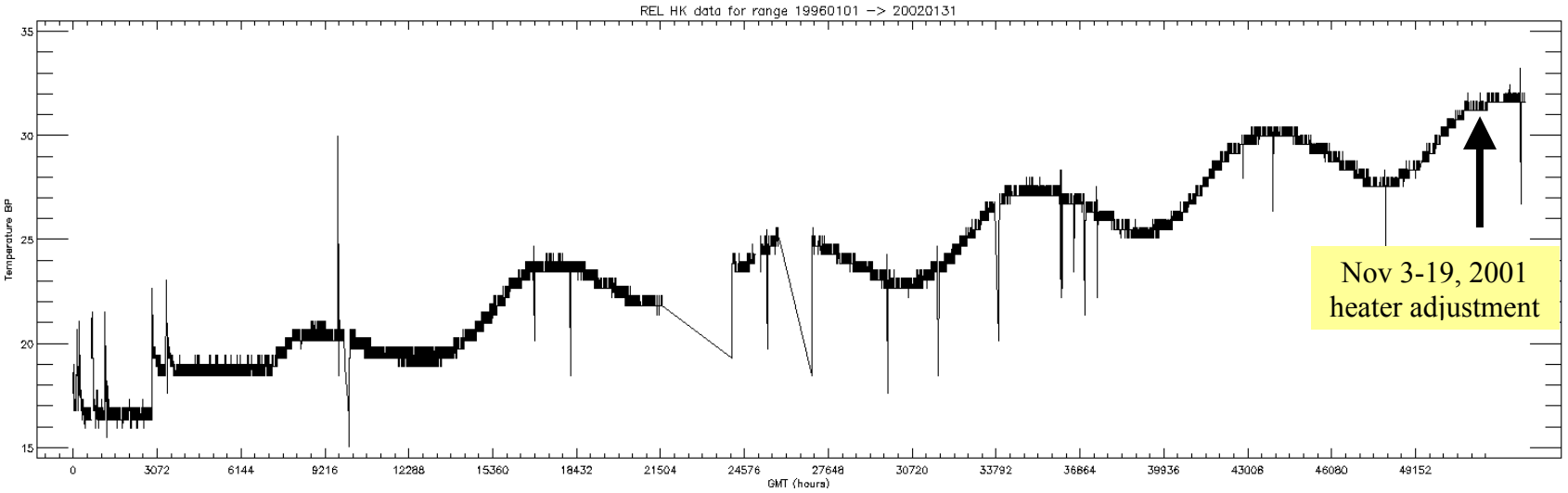
Agenda SWT-34

17:00 Agree Agenda and Actions Revision (BF)
17:15 Mission Extension (ESA/NASA Situation) (BF/JG)
17:30 Spacecraft Status (BF)
17:50 Ground System Status (JG)
18:00 SOC Report
- HESSI co-observing plans
- Instrument Turn-on scripts
- MEDOC campaigns
- Calendar outlook

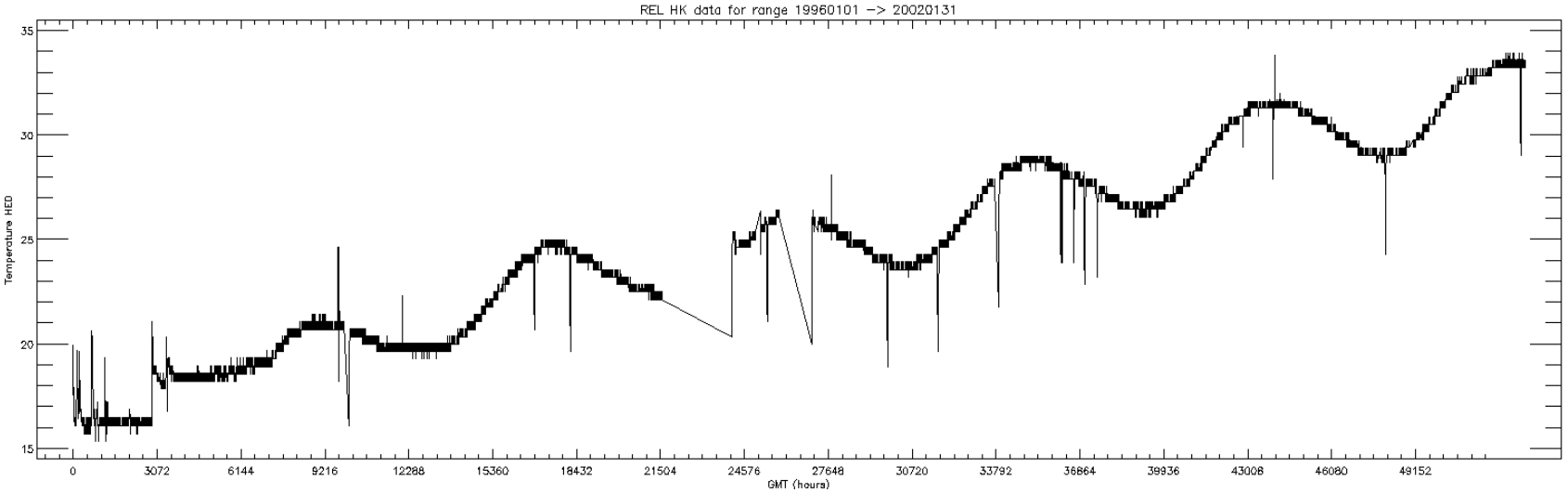
18:20 Status of Instruments + Instrument Teams (PIs)
19:20 PR and Outreach Activities (PB)
19:35 Workshops and Meetings (BF)
- SOHO-12/GONG2002: 27-31 Oct 2002
- ESLAB-37 (SOHO/Cluster): 23-29 Sep 2003

19:50 AOB
20:00 Adjourn / Dinner

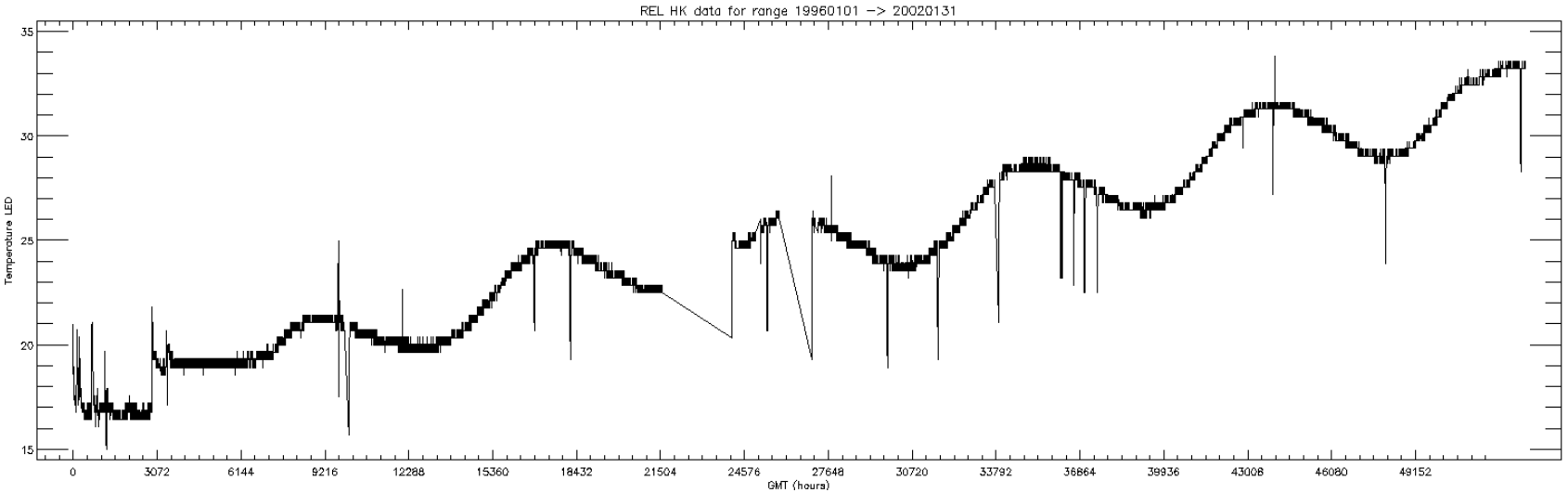
Annex 3: ERNE Plot



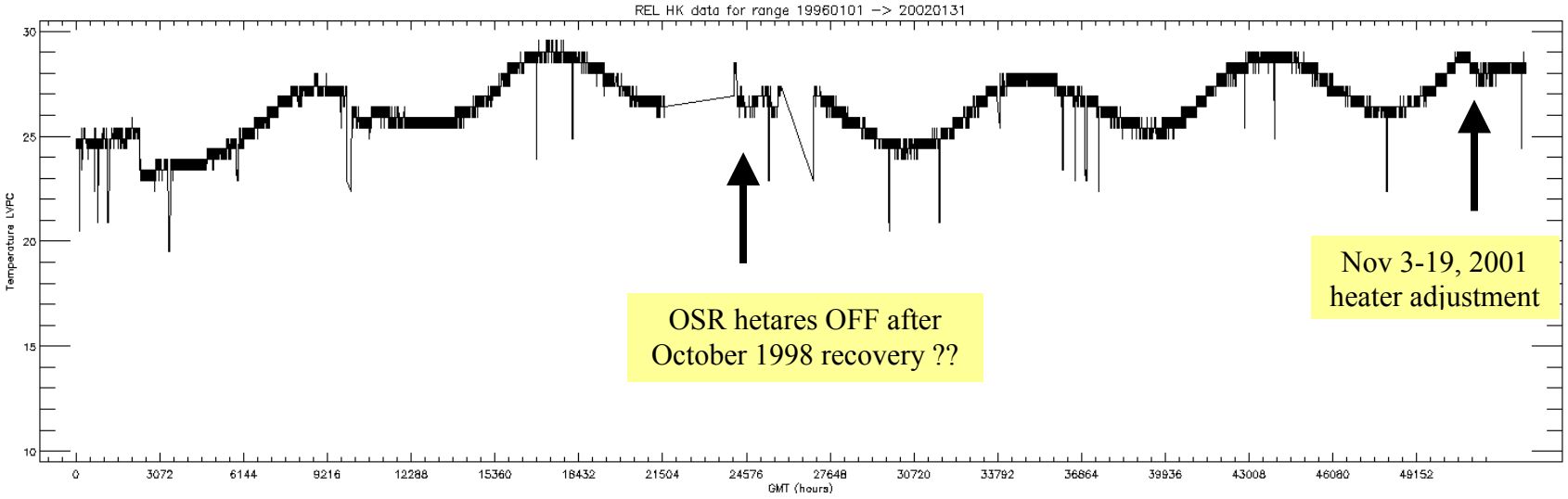
ERNE Sensor Unit baseplate temperature 1996-01-01 – 2002-01-31.



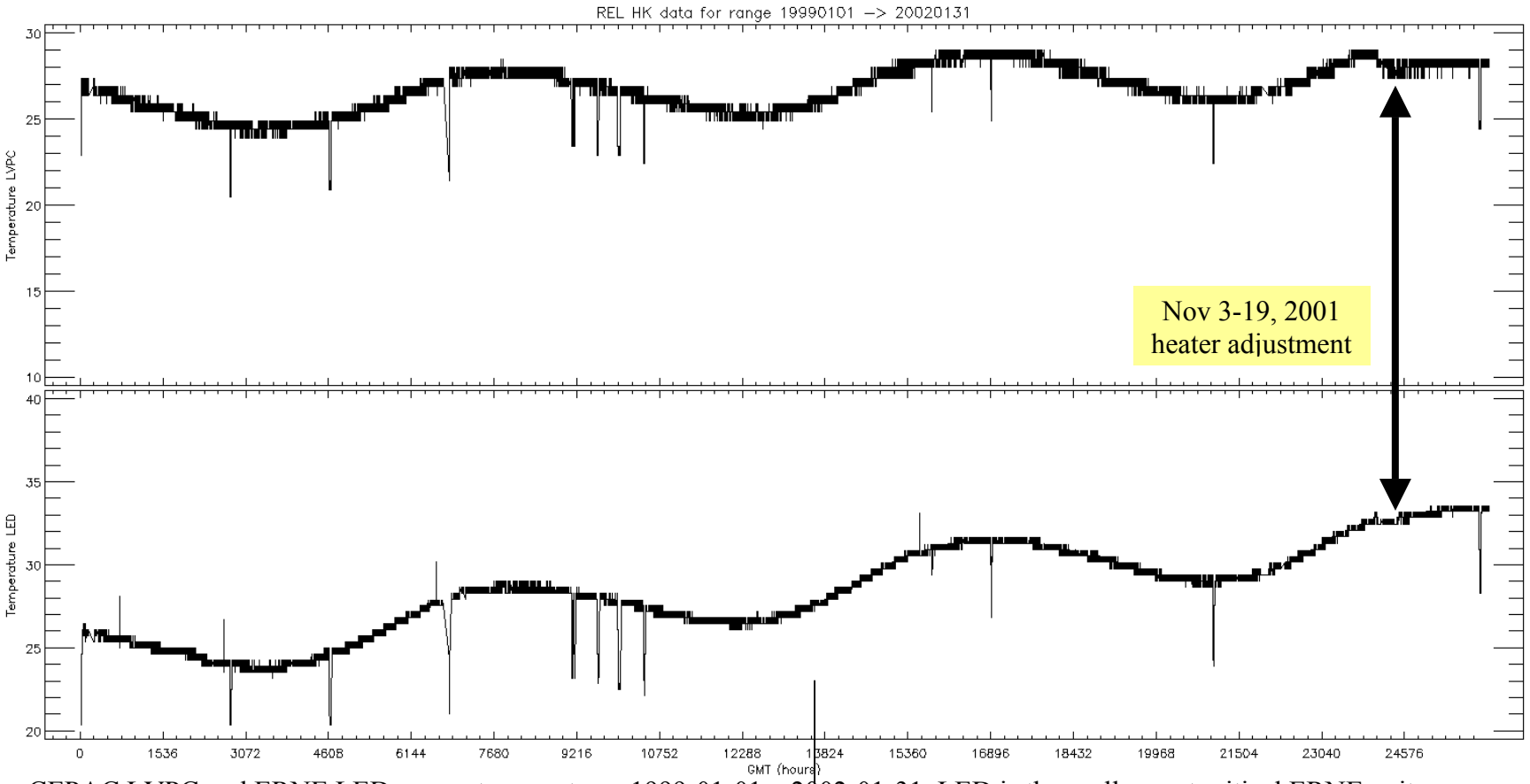
ERNE HED sensor temperature 1996-01-01 – 2002-01-31.



ERNE LED sensor temperature 1996-01-01 – 2002-01-31.



CEPAC LVPC temperature 1996-01-01 – 2002-01-31. LVPC is a themally collectively controlled unit (should reflect PLM temperature).



CEPAC LVPC and ERNE LED sensor temperatures 1999-01-01 – 2002-01-31. LED is thermally most critical ERNE unit.

Annex 4: Action 33-4

SOHO/INSTRUMENT

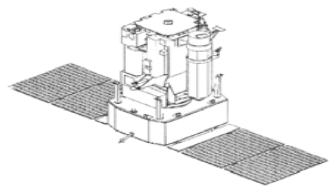
Data Analysis Resources

This page provides an overview of **all online information resources relevant to the analysis of data from the SOHO/INSTRUMENT instrument.**

- ## Instrument/hardware description
  - Description
  - Technical description: Blue book
  - See also What we Learned after Launch
  - Other technical issues: Nominal Operation mode
- ## Data file description(s)
  - Recommended reference(s) on file format used: FITS, CDF files
  - Data file keywords and data
  - Data file calibration level
  - Suggested method for reading data
  - Alternate data sources and file formats
- ## Software
  - Recommended software and where to get it
  - Alternative software
  - Calibration
- ## Reference library
  - User Guide
  - Software Notes
  - Software Resources
- ## Still can't analyse SOHO/INSTRUMENT data?

  Contact us

Annex 5: Spacecraft Status



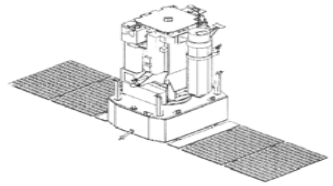
SOHO Spacecraft Status
SWT-34

Davos
March 10, 2002

CONTENTS

Spacecraft Subsystem Status
Solar arrays degradation
Solid State Recorder Single Event Flag counts
Remaining Fuel

H. Boithias, M. Chaloupy, H.Schweitzer, M.Verdant@ GSFC



SOHO Spacecraft Status SWT-34

Davos

March 10, 2002

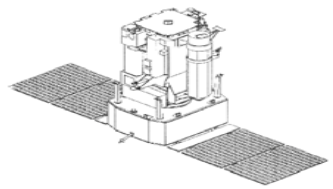
Spacecraft status

- **Spacecraft is nominal.**

  There was one ESR (#18) on Feb. 5, 02 caused by a main bus voltage drop.

  The voltage dropped to at least 23.5V (threshold of LCL switch –off) and was in duration between 60 microsec (mainbus undervoltage flag) and 15 millisec (Battery Charge Regulator reaction time; BCR was not switched to full charge mode).

  Reason for the voltage drop unknown; suspects are main bus capacitor short circuit or tin whiskers (tiny crystalline structures, which caused problems in satellites of the Hughes 601 series by creating short circuits between relay cases and leads). Action on-going to determine, whether tin plated parts are used in SOHO
- **Power subsystem: nominal performance; one of the two batteries is lost, probably due to a high impedance of one cell. There is little charge left in that battery, and trickle charging is switched off. Battery 2 is still ok. (SOHO batteries are normally not used).**
- **Data handling and attitude control: nominal performance;**
- **Propulsion: Thruster performed nominally during maneuvers. Remaining fuel: about 122 kg. Next maneuver is tentatively planned for May 2002.**
- **Thermal: all spacecraft temperatures are within limits. The X-panel heaters were switched off Nov. 2001 to accommodate CEPAC.**



SOHO Spacecraft Status
SWT-34

Davos
March 10, 2002

- **Short chronology of the ESR:**

- **Mainbus drop caused all units (S/S's, experiments), powered by LCLs, to lose power.**

- **The DHS's reconfiguration unit (not powered by LCLs), switched to redundant DHS after voltage came back.**

- **After 3 min. the offpointing reached 5 degree due the spin down of the wheels → AOCS went to ESR.**

- **Acquisition of TM after 2 hours**

- **Transition to CRP was smooth; observed for a limited time wheel torque demand errors (timing problem in data transfer of wheel drive electronics; occurs only at certain wheel speeds and only in CRP).**

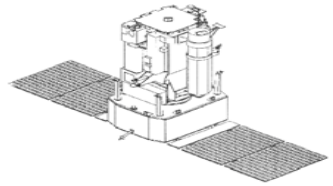
- **Experiments had cooled down, because the SHs were disabled (as of context memory)**

- **initiated thermal reconfiguration and enabled SH**

- **recovered DHS to normal side: as of the same context memory, the SH were disabled again. Instruments cooled down or warmed up according to last heater status and SH were again manually configured.**

- **had sporadic glitches in PLM PDU serial TM, acquired by the PLM RTU, which have disappeared by now.**

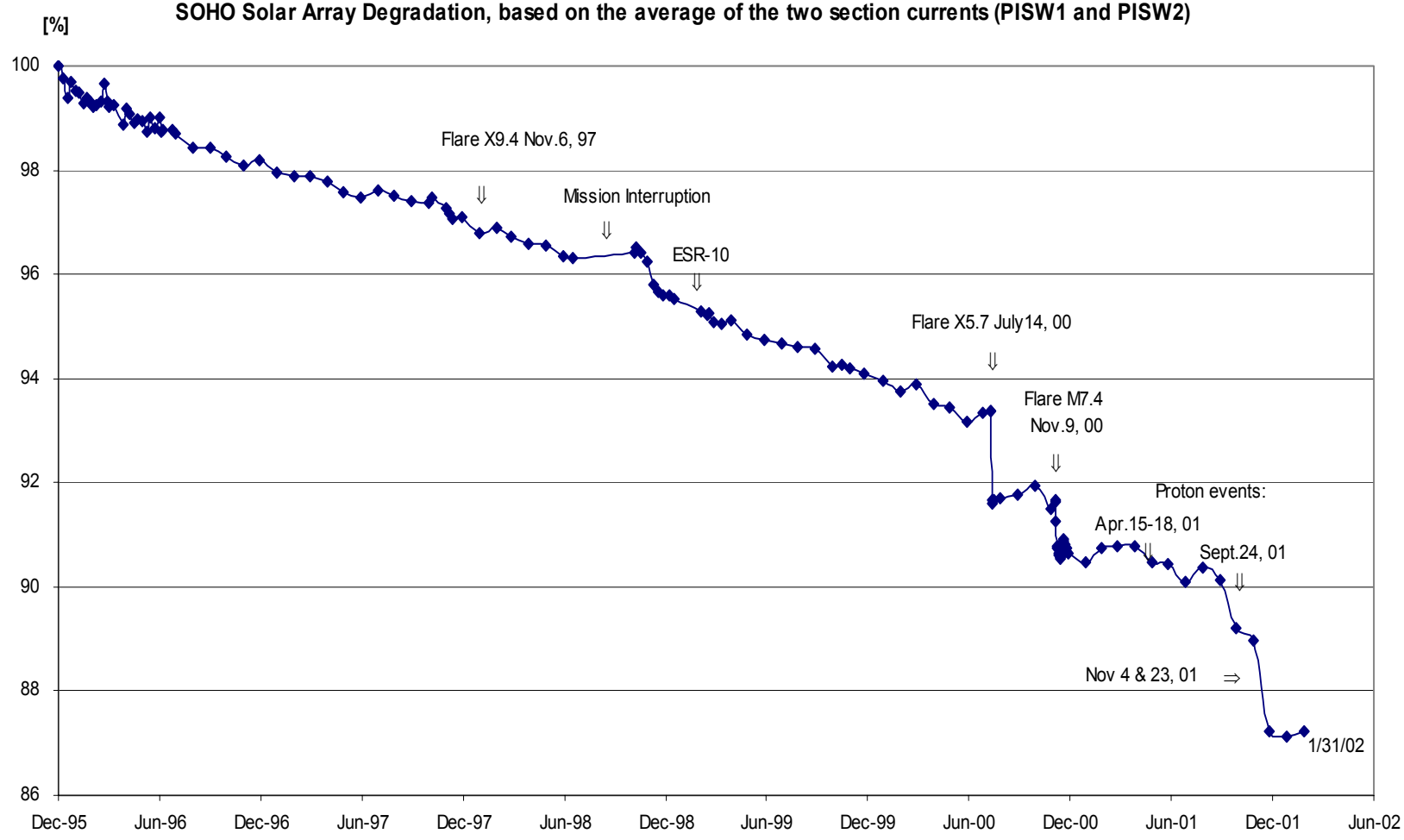
- **the remainder of the recovery went smooth**

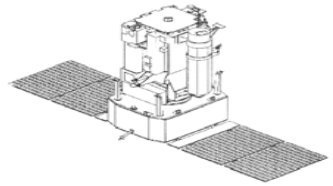


SOHO Spacecraft Status
SWT-34

Davos
March 10, 2002

SOHO Solar Array Degradation, based on the average of the two section currents (PISW1 and PISW2)

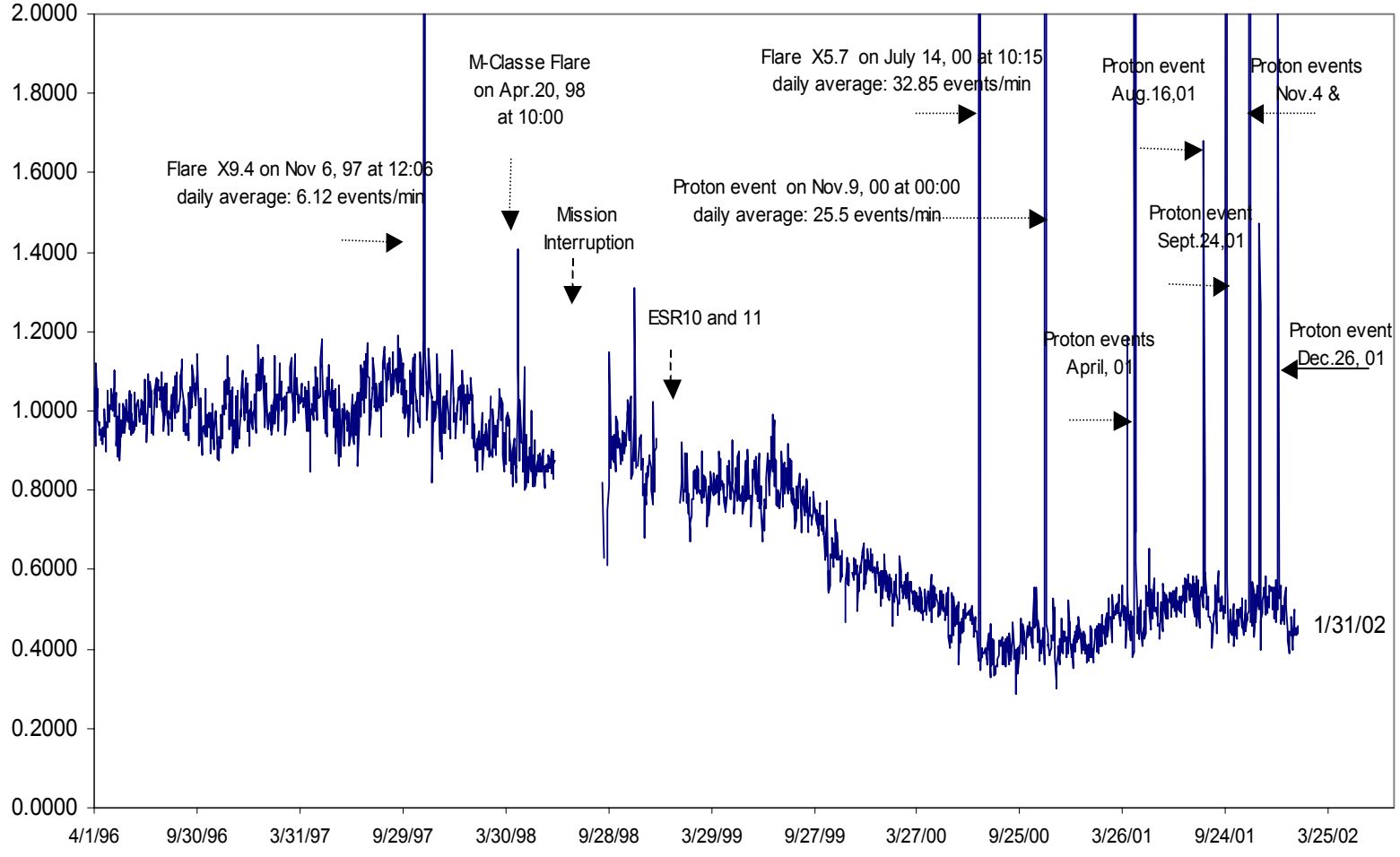


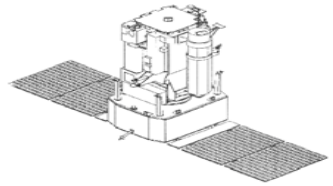


SOHO Spacecraft Status
SWT-34

Davos
March 10, 2002

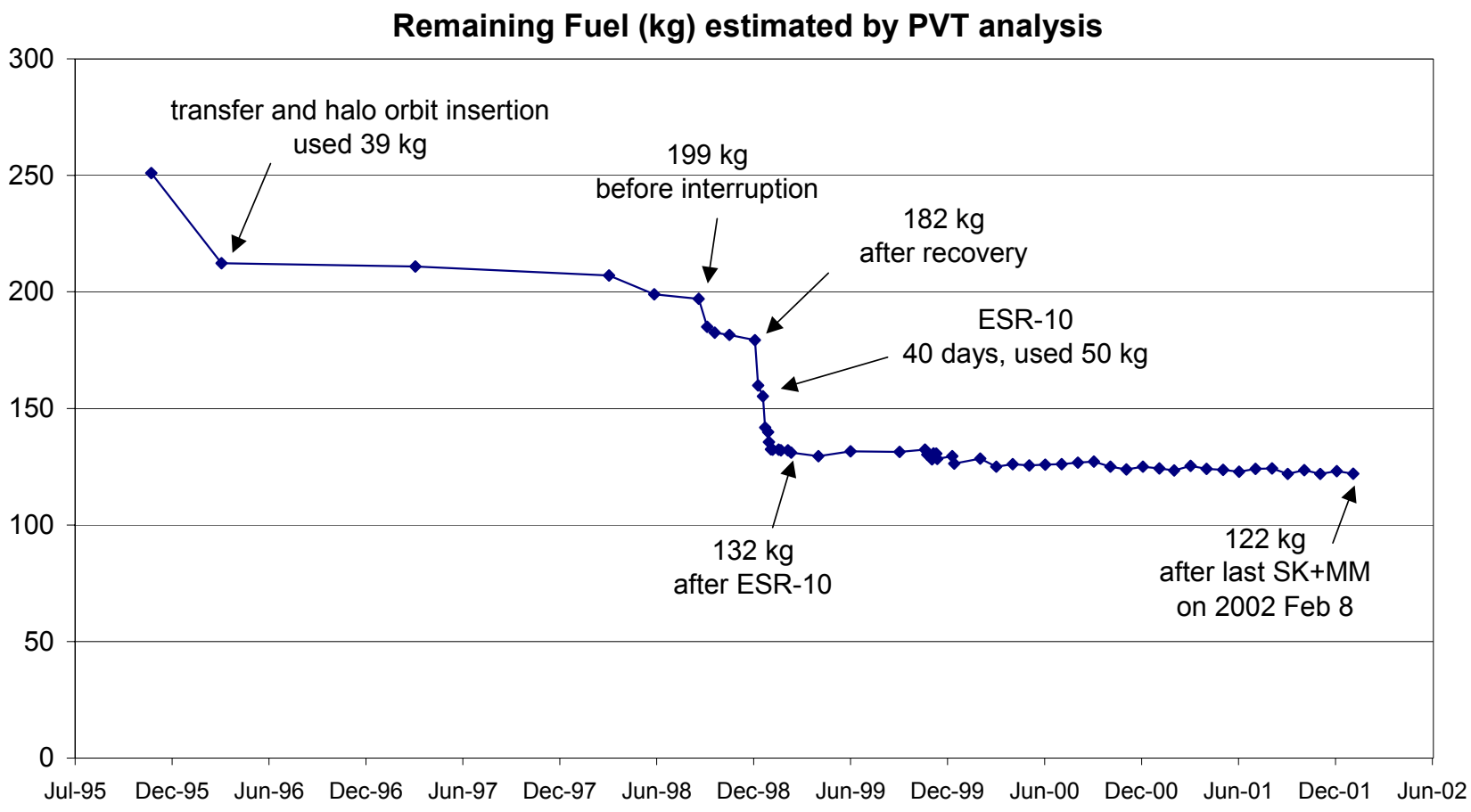
SOHO SSR Single Event Upsets, parameter DKSSCSEF (events/minutes/2G-bit)
Note: since Sept.13, 00, the MU 15 is OFF (corrected for in the plot)





SOHO Spacecraft Status
SWT-34

Davos
March 10, 2002



Annex 6: Ground System Status

SOHO Ground System Status

Prepared by

R. Mahmot and R. Dutilly

Ground Systems

- Central Data Handling Facility (CDHF)
  - Discontinued use of the CDHF except for processing of Attitude and Orbit data products
  - Transitioned all functions to the Data Processing System (DPS)
  - Cost savings for *SOHO* per year
    - FY02 (remainder): ~ 0.8FTE
    - FY03: 1.2 - 1.5 FTE (depending on the elimination of the Attitude/Orbit products in the CDHF)

- Command Management System (CMS)
  - New capabilities added and other functions updated or corrected
    - Express Load Generation capability bypasses manual scheduling of command loads; this provides quicker response during critical operations
    - The pass plan generation has been automated; this eliminates some possible errors
  - The changes have lessened the amount of manual input to CMS which eliminates a significant contributing cause of operator errors

Ground Systems

- FOT Status
  - Staffing is at the NASA/ESA approved level
  - No attrition the past 6 months
  - FOT training program in place
    - Number of certified console crew are: 5; 5 are still in training
  - Proficiency training with the baseline spacecraft simulator to all crew personnel
  - Skills Catalog has been thoroughly updated to list all of the necessary skills for the certified positions

Annex 7: SOC Report

Plans for HESSI Major Flare Alerts

SOHO SOC will be notified by Max Millenium Chief Observer

SOHO SOC will call those who want notification:

TRACE wants notification

EIT/LASCO wants notification

UVCS wants notification if certain conditions are met

MDI wants notification if certain conditions are met

SUMER does not want after hours notification

CDS does not want after hours notification

Submode switches will be negotiated with relevant teams, if we are in Submode 5 are SUMER can not support the flarewatch.

Provide Input For Turn-On/Return to Nominal Observing Scripts
---

1) For the case of your instrument being shut off at the LCL level

2) For the case of your instrument being internally shut off

3) For the case of your instrument in a safe mode but powered on

Specify the following:

TSTOL commanding

Substitution heater switching

Loads to be sent

NRT requirements (approximate length, interruptability)

Calendar

March/April	Possible Maneuvers (TDRS)
April 5	SUMER turns on
May 20-June 2	MEDOC Campaign 9
May 21	Possible Maneuvers (TDRS)
June 2	MDI CC ends
mid-August	Offpoint (TBC), EIT Calrock, CELIAS/SEM underflight
Oct 21-Nov 3	MEDOC Campaign 10 (TBC)
Nov 17&18	Leonids (Input/decision in July/August)
Jan 20-Feb 16	First part of MDI 2003 CC
Sep 29-Nov 16	Second part of MDI 2003 CC

Annex 8-1: CDS

CDS Status Presentation – Richard Harrison

SOHO-SWT Davos, March 10, 2002-03-11

The following is a brief summary of newsworthy items regarding the current status of CDS. For full details on the CDS operation, status etc… see the Web site at http://solg2.bnsc.rl.ac.uk.

1. We have a new addition to the CDS core team at RAL. Dr Peter Young has joined the team as of February 18.
2. CDS is 'nominal', which is excellent after 6 years of operation with almost continuous mechanism use. There are two hardware items to report. First, there is evidence for 'sticking' of the slit raster mechanism at a specific location. This is the N-S raster direction and thus has no impact on the NIS operation (i.e. no impact on 90% of the CDS science operations). There is no problem with slit selection. Rastering in the N-S direction with the GIS has been restricted and tests have been run. GIS observations are considered, and are allowed within limits. The problem appears to be in MCU software, and this is being investigated. Again, the impact on science is low. Second, we have now identified burn-in in the bright GIS lines. This has been the case for the NIS for some years – and it is expected. We have run the NIMCP and GIMCP studies to tackle this effect, from Day One. Thus, we are able to apply a correction.
3. The ISSI Calibration Workshops were a great success, producing a superb set of detailed papers which show all of the calibration issues but stress the quality of the SOHO calibrations. The organisers are to be congratulated.
4. We held a CDS User meeting in 2001, at the UK National Astronomy Meeting in Cambridge. Several issues came out of that meeting. First, there was a call for a quick method for advertising updates to calibration, software developments etc, etc… In response a Newsletter has been set up, edited by Andrzej Fludra. Second, there was a call from the community to restart the CDS Science Meetings. These were terminated in 1997 because they were duplicating somewhat the SOHO Workshop series activities. Now that the SOHO Workshops are less frequent, it seems appropriate to restart the CDS Science Meetings. This is under discussion within the CDS core team.

Annex 8-2: CELIAS

Status of CELIAS Experiment and CELIAS Team
March 10, 2002

Report by P. Bochsler, University of Bern

Experiment: Status as on previous meeting.

DPU latch-up casued the experiment to turn off on January 24, 2002. Since then the experiment has fully recovered and is operating again since February 10.

CTOF in low voltage mode.

MTOF/PM in stable and good condition. Derading of MCPs.

SEM in excellent condition.

Team and recent activities: Team is working with reduced manpower (Garching, Lindau, Bern) SEM- and PM-Teams (at USC and Umd) and part of CTOF-Team are active and publishing. Publications: About a dozen publications resulted from SOHO/ACE workshop in Bern further publications (mostly theoretical) on neutral particles with HSTOF. Calibration campaigns for MTOF have been carried out in 2001 and calibration of MTOF has shown some positive results. SEM rocket calibration in November 2001. Preparation of calibrated SEM data for real time coverage.

Current activities:

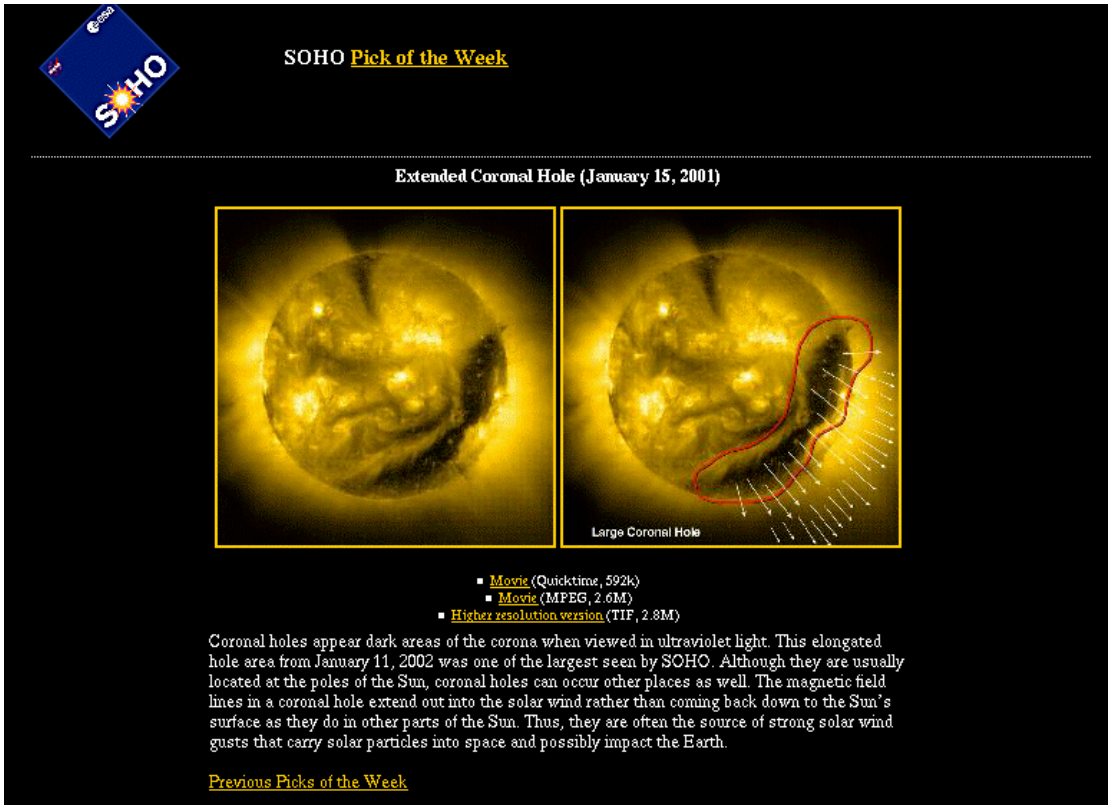
10th CELIAS Postlaunch Workshop took place from March 6 to March 8, 2202, in Rorschach/Switzerland/.
Further effort to improve PM time resolution. Recovery of Bern-Team and concentrated effort on calibration promises more MTOF results during 2002.

Annex 9: PR and Outreach Activities

SOHO Web pages - Pick of the Week

Started as a service to the American Museum of Natural History's Rose Center in New York

- **These are displayed on the Astronomical Bulletin area (a 4 m video wall)**
- **Now added as a feature on the SOHO web pages**

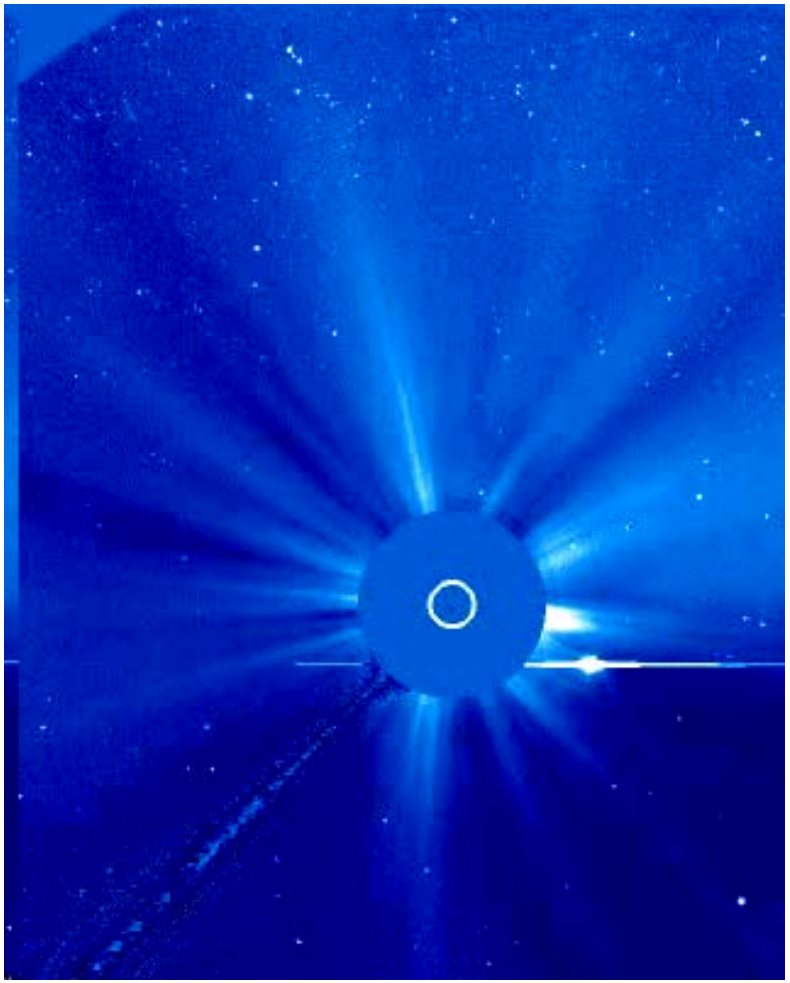


Latest CNN

CNN.com - Space Chronicles - Microsoft Internet Explorer
CNN.com SPACE CHRONICLES
close window
SCENES FROM SPACE
Presented By:
MITSUBISHI ELECTRIC
Changes for the Better
SUN DRIP
The sun-watching satellite known as the Solar and Heliospheric Observatory spied a gigantic blast erupt from the sun on February 18. The storm from near the southern solar pole carried billion of tons of particles at millions of miles (km) per hour, according to SOHO scientists. It extended well beyond this SOHO camera's field of view, probably more than 50 times the size of the Earth.
02/27/02
(COURTESY ESA/NASA)

SOHO Highlight Tape

- SOHO Highlight Video tape (BETA)
  - Continuously updated
- SOHO Highlight DVD is being developed



SOLARMAX

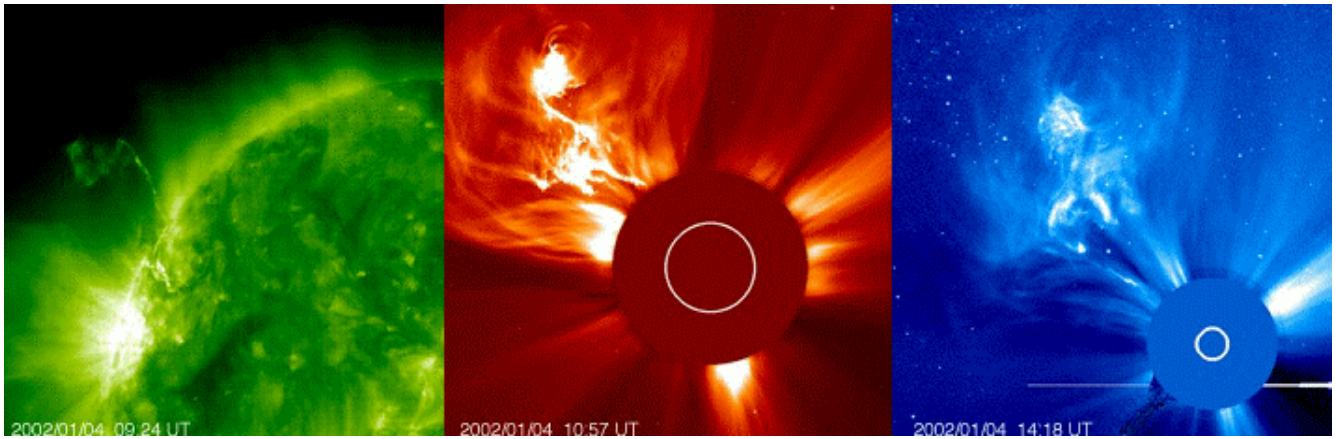
- **Support screenings of the SOLARMAX IMAX movie**
  - **Chicago (first time in USA), Seattle, Washington DC, Copenhagen, Oslo**
  - **Includes keynote lectures, SOHO/CLUSTER models, ESA backdrop walls**
  - **DVD version soon ready (includes the ESA SOHO CD as a bonus)**

Space weather in Europe

- Space Weather in Europe (SWE) proposal accepted by EU as an European Science and Technology Week (ESTW) in November 2002 (Frank Jansen, Univ. of Greifswald)
- Location: Zeiss-Grossplanetarium Berlin (Germany)
- Participants: Lund (IRLF), Helsinki (FMI), Athens (NOA), Graz (OEAW), and Dublin (DIAS)
- EU asked ESA to participate.
- Organizor of SWE suggest ESA to support similar to the SOHO 5 year anniversary
  - ESA Staff, translation of new CD, press release, PR material etc.
  - Kick-off meeting 1 February

SOHO Web pages – Media

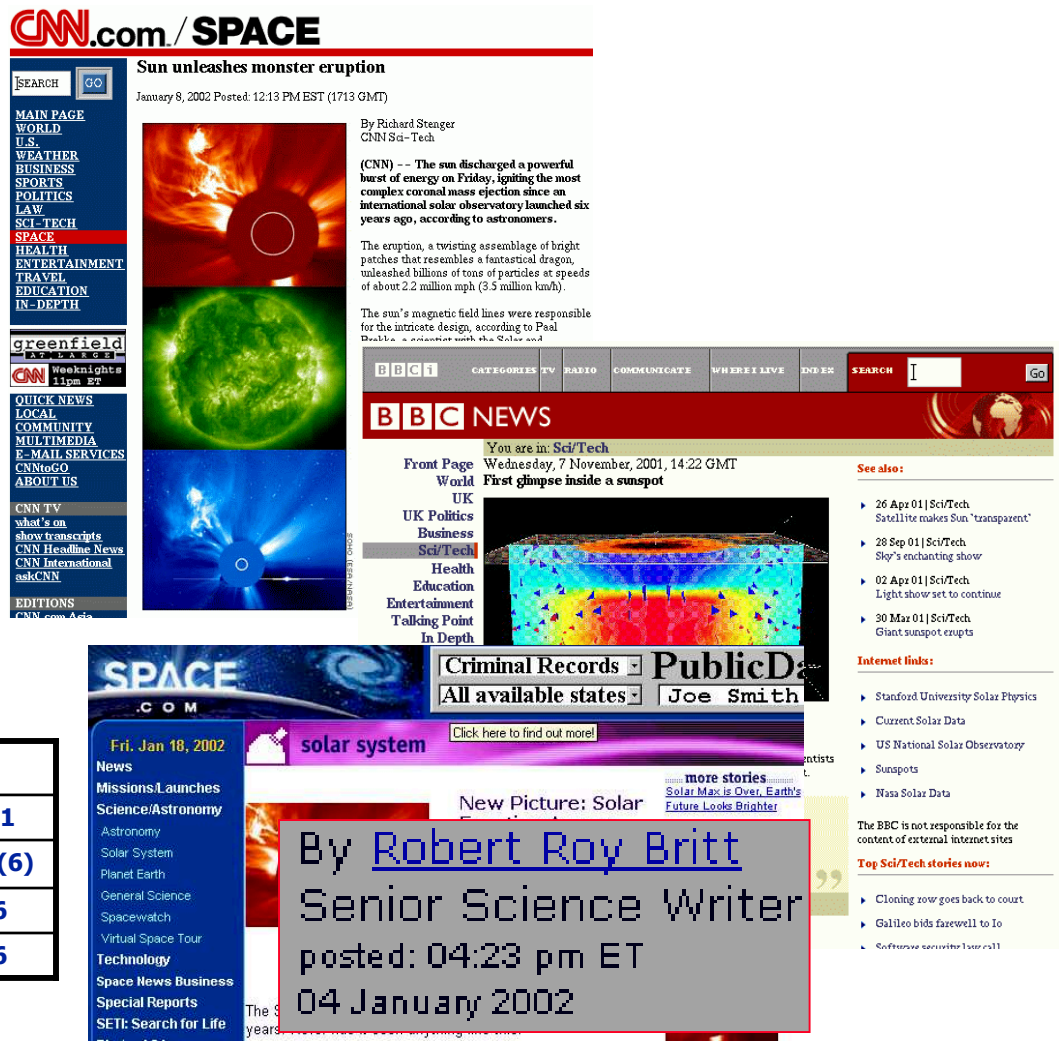
What happens if the Sun gives us a show!!



- Sun unleashes monster eruption (CNN, January 4, 2002).
- New Picture: Solar Eruption Among Most Complex Ever Recorded (SPACE.COM, January 4, 2002).
- Sun erupts with an extraordinary mass ejection (SPACEFLIGHT.com, January 5, 2002).
- Spektakulaert Utbrudd pa sola (Aftenposten, January 5, 2002; article in Norwegian).
- Spektakulaert Utbrudd pa sola (TV2, January 5, 2002; article in Norwegian).
- Spektakulaert Utbrudd pa sola (VG Nett, January 5, 2002; article in Norwegian).
- Spektakulaert Utbrudd pa sola (Dagbladet, January 5, 2002; article in Norwegian).
- Spektakulaert Utbrudd pa sola (BTNO, January 5, 2002; article in Norwegian).
- Spektakulært utbrudd på sola (Yahoo!, January 5, 2002; article in Norwegian).
- Sonne wirft gigantischen Wirbel (SPIEGEL, January 7, 2002; article in German).
- Ena Theamatiko Iliako Stemma (Flash.gr, January 7, 2002; article in Greek).
- Die Sonne spuckt wieder (Karriere Online, January 8, 2002; article in German).

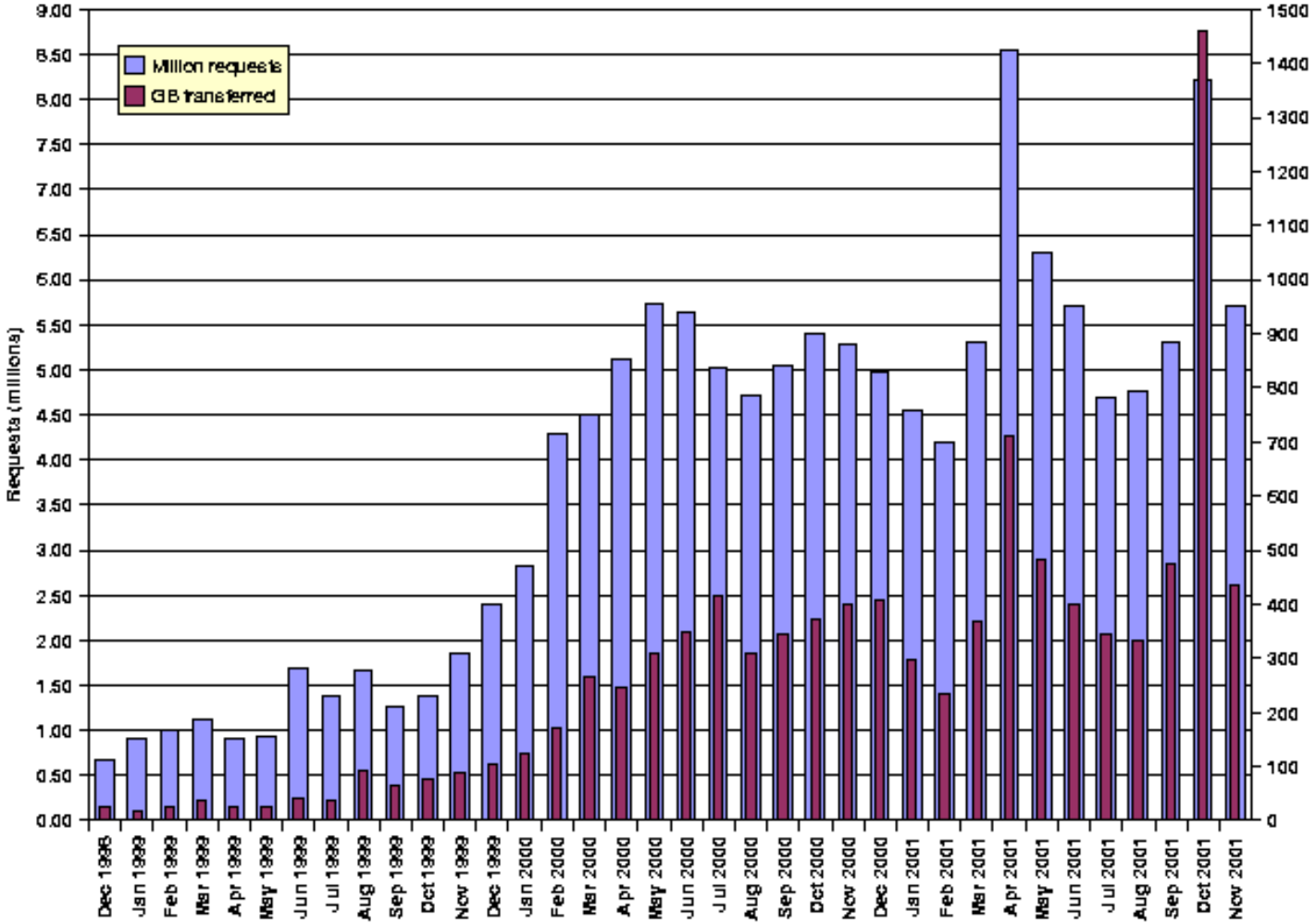
Media coverage

- **Press releases and HOTSHOTS**
  - Numerous reports in media
  - Success due to direct contact with journalists



CNN/BBC coverage during the SOHO mission							
	95	96	97	98	99	00	01
CNN.COM	1	1	6	4	4	17(6)	13(6)
CNN-Euro						4	6
BBC Online				5	6	6	6

SOHO Web Pages



Annex 10: Workshops and Meetings

Meetings and Workshops

- *March 11–15, 2002*
  SOHO-11: From Solar Min to Max: Half a Solar Cycle with SOHO, in Davos, Switzerland. Contact: cfrohlich@pmodwrc.ch
- *March 11–15, 2002*
  21st Sacramento Peak Workshop: Current theoretical models and future high resolution solar observations. Contact: apevtsov@sunspot.noao.edu
- *March 18–20, 2002*
  The 3-D Sun and Inner Heliosphere: The STEREO View, Le Carre des Sciences, Paris, France.
- *April 2–6, 2002*
  ESMN-PLATON Spring School "Solar magnetism", Dwingeloo, The Netherlands.
- *April 16–19, 2002*
  Space Weather Week 2002, Boulder, CO USA.
- *April 18–20, 2002*
  HESSI Data Analysis Workshop in Zürich, Zürich, Switzerland.
- *April 21–26, 2002*
  European Geophysical Society – XXVII General Assembly, Nice, France.
- *May 6–10, 2002*
  1st Potsdam Thinkshop: Sunsposts and Starspots. Potsdam, Germany.
- *May 28–31, 2002*
  AGU Spring Meeting. Washington, DC.
- *June 2–6, 2002*
  AAS/SPD Meeting. Albuquerque, NM Contact: Harjit Ahluwalia
- *June 10–16, 2002*
  4th (Virtual) Thermospheric/Ionospheric Geospheric Research (TIGER) Symposium: "Long-term measurement of solar EUV/UV fluxes for thermospheric/ ionospheric modelling and for space weather investigations". Location: Internet.
- *June 11–15, 2002*
  Euroconference/IAU Colloquium 188: "Magnetic Coupling of the Solar Atmosphere". Santorini, Greece. Contact: Georgia Tsiropoula (georgia@space.noa.gr) or U. Schuehle(schuehle@linmpi.mpg.de)
- *June 17–21, 2002*
  Solar Wind 10, in Pisa, Italy.
- *June 17–22, 2002*
  IAU Symposium 210:Modelling of Stellar Atmospheres, in Uppsala, Sweeden.
- *July 24–26, 2002*
  International Workshop: From the Gregory-Coud'e Telescope to GREGOR: a Development from Past to Future, in Goettingen, Germany. Contact: kneer@uni-sw.gwdg.de or kneer@astro.physik.uni-goettingen.de
- *August 18–22, 2002*
  SHINE 2002 Summer Workshop, in Banff, Alberta, Canada
- *August 22–28, 2002*
  SPIE's International Symposium on Astronomical Telescopes and Instrumentation, in Waikoloa, Hawaii,USA
- *September 9–14, 2002*
  10th European Solar Physics Meeting. Solar Variability: From Core to Outer Frontiers, in Prague, Czech Republic.
- *September 30–October 4, 2002*
  Solar Polarization, Puerto de la Cruz, Tenerife, Spain
- *October 10–12, 2002*
  COSPAR Symposium: Solar Variability and Climate Change, in Houston, Texas. Contact: Judith Pap (papj@marta.gsfc.nasa.gov)
- *October 10–19, 2002*
  World Space Congress 2002/34th COSPAR Scientific Assembly, in Houston, Texas.

October 27-31, 2002
SOHO-12/GONG2002 @ Big Bear Lake, CA

Week of Sep 22, 2003
ESLAB-34 SOHO/Cluster

HESSI/SOHO/TRACE Workshop in 2003 ?

ESLAB-37: SOHO/Cluster

- Follow-up of 1985 Garmisch-Partenkirchen Workshop on "Future Missions in Solar, Heliospheric & Space Plasma Physics" (ESA SP-235)
- Proposed date: week of 21 September 2003
- Composition of SOC
  - 4 PIs each from SOHO and Cluster, PE and BF co-chairs.
  - Volunteers??
- Title??
  - "Reconnection in Tenuous Plasmas on the Sun and in the Magnetosphere"
  - "Particle Acceleration in Tenuous Plasmas – the Complimentary Views from Cluster and SOHO"