

SORCE Weekly Status Report – 4/23/2009 to 4/29/2009

1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, April 23, through Wednesday, April 29, 2009.

2. Spacecraft Summary (submitted by Deb McCabe, 30 April)

04/23	04/24	04/25	04/26	04/27	04/28	04/29
113	114	115	116	117	118	119

An XPS calibration was performed 2009/116-05:05:27

SOLSTICE A had a grating drive error on 2009/118-16:31:18 that was recovered by TMON/RTS response.

There were two MU Read 0 events reported during the past week:

2009/114-09:09:39

2009/118-06:01:36

GCI lockups:

Instrument	Lockup Time	Response Time	Duration (MINUTES)	Lat	Lon
solstice_a	2009/113-20:53:15	2009/113-21:33:19	40.07	-27.7	-53.4
solstice_a	2009/114-02:08:35	2009/114-02:24:43	16.13	-26.2	-28.6
solstice_a	2009/116-18:15:29	2009/116-19:09:45	54.27	-6.4	-64.0
solstice_a	2009/118-15:36:30	2009/118-16:28:56	52.43	-16.1	-24.0
solstice_a	2009/119-15:50:12	2009/119-16:45:33	55.35	-12.2	-39.3
solstice_b	2009/113-20:53:17	2009/113-21:33:14	39.95	-28.0	-52.9
solstice_b	2009/114-21:09:40	2009/114-21:50:13	40.55	-29.6	-60.2
solstice_b	2009/115-00:46:49	2009/115-01:04:28	17.65	-26.4	-14.6
solstice_b	2009/115-19:46:26	2009/115-20:29:59	43.55	-26.5	-51.7
solstice_b	2009/116-16:44:44	2009/116-17:32:33	47.82	-20.4	-22.2
solstice_b	2009/116-18:23:29	2009/116-19:09:40	46.18	-24.1	-41.4
solstice_b	2009/118-17:15:17	2009/118-18:05:57	50.67	-20.0	-43.5
solstice_b	2009/119-00:15:45	2009/119-00:34:24	18.65	-17.7	-18.8
solstice_b	2009/119-21:08:19	2009/119-21:36:47	28.47	-34.1	-9.0
sim_a	2009/113-03:28:06	2009/113-03:43:13	15.12	-30.1	-50.1
sim_a	2009/114-03:39:55	2009/114-04:00:17	20.37	-35.5	-74.2
sim_a	2009/114-21:18:44	2009/114-21:48:42	29.97	-39.6	-23.4
sim_a	2009/116-20:03:38	2009/116-20:14:00	10.37	-30.0	-55.7
sim_a	2009/117-18:37:51	2009/117-18:53:36	15.75	-21.9	-55.2
sim_b	2009/113-19:11:55	2009/113-19:23:49	11.90	-19.0	-42.2
sim_b	2009/113-22:38:33	2009/113-23:08:57	30.40	-38.7	-45.6
sim_b	2009/117-01:11:00	2009/117-01:36:42	25.70	-36.7	-60.5
sim_b	2009/117-18:32:41	2009/117-18:53:41	21.00	-10.5	-69.8
sim_b	2009/117-20:20:56	2009/117-20:30:48	9.87	-32.9	-59.4
sim_b	2009/119-01:48:57	2009/119-02:10:05	21.13	-25.5	-54.8
tim	2009/113-19:10:52	2009/113-19:21:09	10.28	-16.8	-45.1
tim	2009/114-05:22:03	2009/114-05:38:49	16.77	-27.3	-79.9
tim	2009/115-02:22:14	2009/115-02:41:30	19.27	-29.5	-45.0
tim	2009/116-00:58:48	2009/116-01:21:15	22.45	-32.4	-37.1
tim	2009/118-17:16:45	2009/118-17:30:38	13.88	-22.8	-39.5
XPS	2009/113-03:24:18			-35.6	-64.0
XPS	2009/113-03:26:36			-32.5	-55.6
XPS	2009/115-02:22:47			-28.6	-43.3
XPS	2009/115-02:23:25			-27.4	-41.0
XPS	2009/116-00:58:40			-32.6	-37.7
XPS	2009/116-23:29:45			-39.7	-54.3
XPS	2009/116-23:41:08			-25.4	-9.1
XPS	2009/117-04:36:21			-16.8	-70.8

XPS	2009/118-01:32:55	-26.9	-46.8
XPS	2009/118-01:40:58	-9.2	-22.7
XPS	2009/118-15:36:00	-15.0	-25.4
XPS	2009/118-17:17:28	-24.5	-36.9
XPS	2009/119-03:29:46	-17.9	-68.3

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	5	6	5	9	5	13
Total	1950	2496	1347	1608	2175	2008

3. Ground Support / Contact Summary (submitted by D. McCabe)

Sixteen ground station contacts were performed over the past week.

	Captured VCDUS	Recorded VCDUS	%
SC housekeeping	334272	334273	100
IM housekeeping	45747	45748	100
Science	332303	332304	100

4. Instrument Status

4.1. TIM (submitted by Greg Kopp, 29 April)

TIM operations during previous week

- Normal Ops (TSI data w/ Cavity B)
- Cavity A&B, A&C, B&D comparisons

Current work

- Normal operations
 - Version 9 data processing provides daily updated TSI values

TIM anomalies during previous week

- None

4.2. SIM (submitted by Jerry Harder, 30 April)

For days 2009/103 (April 13) to 2009/120 (April 30):

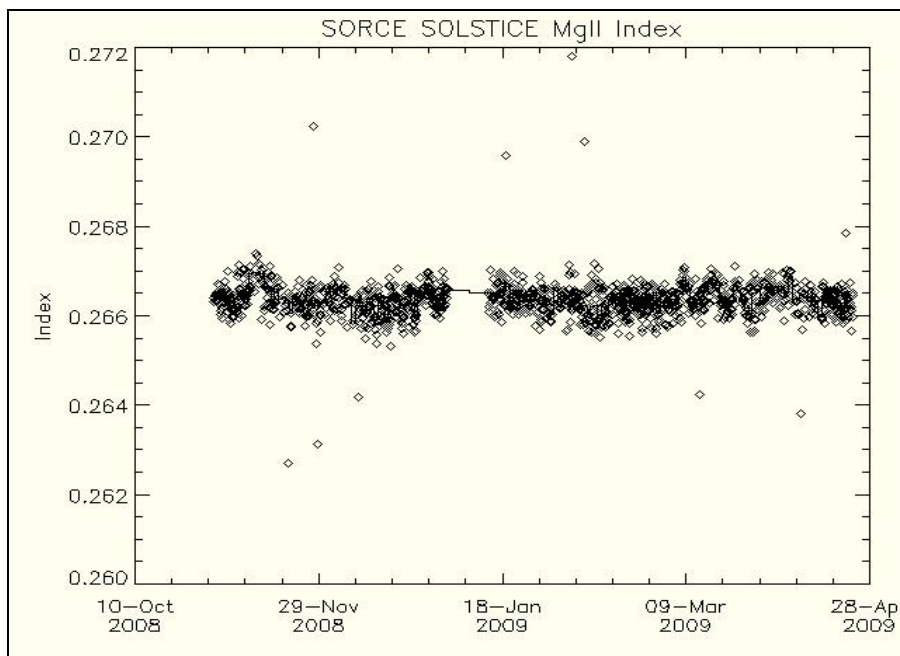
• Calibration Activities:	<u>SIM A</u>	<u>SIM B</u>
-- Prism Calibration A_cal_B	0	0
-- Prism Calibration B_cal_A	0	0
-- CCDDump	4	4
-- Image Dark	2	0
-- Image Light	2	2
-- Servo Gain 20 sec half cycle	5	5
-- Servo Gain 50 sec half cycle	2	2
-- Cruciform Scans	0	0
-- FOV Maps	0	0
• Science Activities:	<u>SIM A</u>	<u>SIM B</u>
-- ESR Full Scan Segments	0	0
-- ESR Table Scan Segments	14	7
-- 24-minute Scans	35	2
-- 24-minute Scans w/ HRT	0	0
-- IR scans	18	1

- Additional Activities:
 - Attended ESA Solar EUV_IR Workshop, Freiberg, Germany, Apr 15-17
 - Attended 2009 EGU General Assembly, Vienna, April 19-24

4.3. SOLSTICE (submitted by Marty Snow, 30 April)

For days 2009/113 (April 23) to 2009/120 (April 30):

- SOLSTICE A grating drive errors:
 - 2009/116, 19:11:29
 - 2009/118, 16:30:34
 - 2009/118, 16:31:18
 - 2009/119, 16:47:11
- SOLSTICE B grating drive errors:
 - 2009/116, 17:33:31
- Data Gaps for SOLSTICE A (date, length in minutes):
 - 2009/113, 21:34:11 41 minutes
 - 2009/114, 02:25:31 17 minutes
 - 2009/116, 19:10:38 55 minutes
 - 2009/118, 16:29:43 53 minutes
 - 2009/119, 16:46:20 56 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):
 - 2009/113, 21:34:16 41 minutes
 - 2009/114, 21:51:01 41 minutes
 - 2009/115, 01:05:15 18 minutes
 - 2009/115, 20:30:46 44 minutes
 - 2009/116, 17:33:20 49 minutes
 - 2009/116, 19:10:43 47 minutes
 - 2009/118, 18:06:44 51 minutes
 - 2009/119, 00:35:12 19 minutes
 - 2009/119, 21:37:34 29 minutes



4.4. **XPS** (submitted by Tom Woods, 29 April)

For days 2009/107 (17 April) to 2009/118 (28 April):

- Number of XPS GCI errors: 19
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration:
1121.00 sec (19 integrations) at 2009/116 5:7
- Flares: No GOES data for checking on flare magnitude

5. **Planning** (automated report submitted by Jay Kominek, 30 April)

Plans completed 23 April – 30 April:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	341	12:14
Stellar Rolls	421	15:16
Ram Avoidance	0	0:00
Solar Alignment	4	1:32
Stellar Alignment	0	0:00
Field of View Maps	0	0:00
FSS Calibration	0	0:00
Station Contacts	16	3:10
GCI Checks	831	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

SIM A (Primary)

Solar Activity	Total	Total Time
ESR Mode	7	5:12
ESR Mode with HRT	0	0:00
IR Scan	7	6:39
Quick Scan	14	5:39
Quick Scan HRT	0	0:00
Calibration Activity		
Fixed Wavelength	0	0:00
Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00
Field of View Map	0	0:00
Prism Calibration	0	0:00
Image Light	1	0:06
Image Dark	1	0:05
ESR Full Scan	0	0:00
Dark	28	0:21
Special Activity		
Power Cycle Checks	208	13:52

SIM B (Secondary)

Solar Activity	Total	Total Time
ESR Mode	7	5:12
ESR Mode with HRT	0	0:00
IR Scan	1	1:00
Quick Scan	2	0:48
Quick Scan HRT	0	0:00
Calibration Activity		
Fixed Wavelength	0	0:00

Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00
Field of View Map	0	0:00
Prism Calibration	0	0:00
Image Light	1	0:06
Image Dark	1	0:05
ESR Full Scan	0	0:00
Dark	4	0:03
Special Activity		
Power Cycle Checks	208	13:34

SOLSTICE A (MUV)

Solar Activity	Total	Total Time
Normal Scan	93	67:48
Quick Scan	59	12:32
Mini Quick Scan	51	10:55
Stellar Activity		
Fixed Wavelength	0	0:00
Companion	0	0:00
Stellar Scan	0	0:00
Zero Order Scan	0	0:00
Number Unique Targets	0	0:00
Calibration Activity		
Filter Calibration	1	0:52
Fixed Wavelength	0	0:00
AB Comparison	1	0:53
Mini 64 Scan	7	6:39
MUV Solar Alignment	0	0:00
FUV Solar Alignment	0	0:00
MUV Stellar Alignment	0	0:00
FUV Stellar Alignment	0	0:00
MUV Field of View Map	0	0:00
FUV Field of View Map	0	0:00
Special Activity		
Power Cycle Checks	104	4:28
Step Response Test	1	0:02

SOLSTICE B (FUV)

Solar Activity	Total	Total Time
Normal Scan	94	75:22
Quick Scan	60	9:03
Mini Quick Scan	52	7:44
Stellar Activity		
Fixed Wavelength	584	23:22
Companion	57	3:19
Stellar Scan	8	0:48
Zero Order Scan	372	10:53
Number Unique Targets	42	40:13
Calibration Activity		
Fixed Wavelength	0	0:00
AB Comparison	1	0:53
Mini 64 Seam	10	6:50
MUV Solar Alignment	0	0:00
FUV Solar Alignment	0	0:00
MUV Stellar Alignment	8	1:13
FUV Stellar Alignment	2	0:18
MUV Field of View Map	0	0:00
FUV Field of View Map	0	0:00
Special Activity		

Power Cycle Checks	104	4:37
Step Response Test	1	0:02

TIM

Solar Activity	Total	Total Time
Normal Solar	101	87:53
Normal Eclipse	122	57:59
Calibration Activity		
Degradation A	1	0:51
Degradation C	0	0:00
Aliveness D	0	0:00
Gain Calibration AB	0	0:00
Gain Calibration CD	0	0:00
Solar Alignment	2	1:40
Field of View Map	0	0:00
Special Activity		
Power Cycle Checks	208	8:57

XPS

Calibration Activity	Total	Total Time
Calibration	1	0:20

Since December 2005, XPS is activated for a continuous 1-min integration at filter wheel position 6 (0.1-18 nm range) and only has a monthly calibration experiment.

6. Data Processing Summary

TIM (submitted by Doug Lindholm, 30 April 2009)

- Status
 - Version 9 routine processing is ongoing.
 - Version 9 TSI data are available on LISIRD, the SORCE web site, and the GES DISC with the new LASP ASCII file format.
- Work in progress
 - Preparing for version 10 reprocessing.
 - Code modifications (generalizations) to support Glory TIM data processing.
- Future Plans
 - Field of view analysis and pointing correction.

SOLSTICE (submitted by Doug Lindholm, 30 April 2009)

- Status
 - Version 10 reprocessing is being evaluated.
 - Routine data processing is producing version 9 level 3 FUV and MUV SOLSTICE data products. These are available on the SORCE web site and LISIRD.
 - MgII index is being produced routinely and is available on the SORCE web site.
- Work in Progress
 - Evaluating tasks for version 11 reprocessing.
 - Filter experiment analysis to improve dead time correction and filter transmission.
- Future Plans
 - Analysis of instrument misalignment calibration.
 - Analysis of level 3 uncertainties.
 - Improved Jan 2006 slit anomaly correction.
 - Improvement of field of view maps.

SIM (submitted by Doug Lindholm, 30 April 2009)

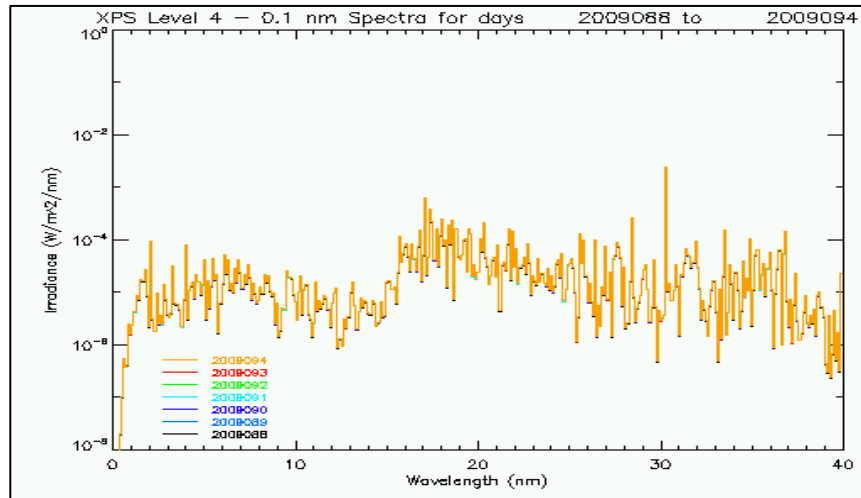
- Status

- Evaluating version 17 reprocessing.
- The routine release of version 16 data products after the January 2009 safe-hold events has been put on hold. The data require a wavelength shift correction.
- The level 3 data products are available on the SORCE web site and LISIRD.
- Work in Progress
 - Development of a wavelength shift correction.
 - Calibration to improve the quality of early mission data.
 - Testing of new SIM exposure time algorithm.
 - Reviewing the phase detected data number server
- Future Plans
 - Processing of SIM B.

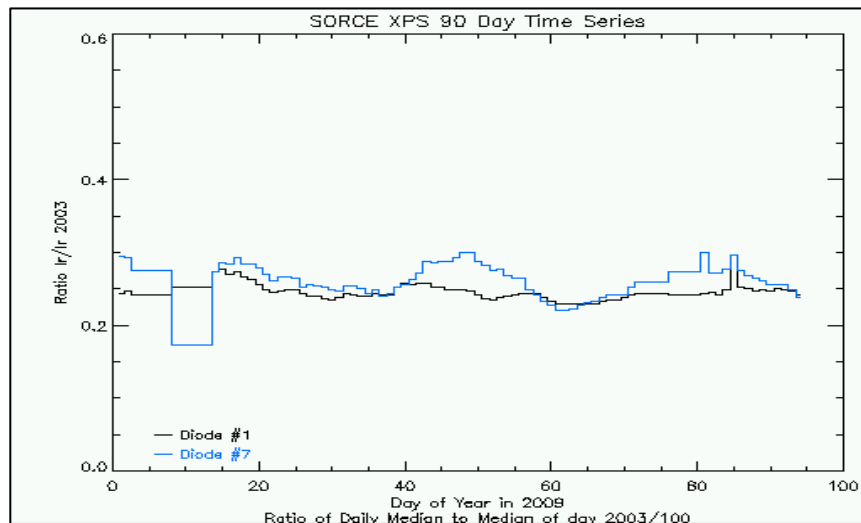
XPS (submitted by Brian Templeman, 9 April 2009)

- Version 9 XPS data are being routinely reprocessed and released.
- The safe-hold events in January did not appear to affect data quality.
- SORCE XPS Data Processing Statistics for 2009/088 to 2009/094

Total level 1b Observations Processed:	27026
Percent used in level 2 Processing:	53.8259
Total level 3 Observations Processed:	14547



Weekly Image



Diode Time Series