

SORCE Weekly Status Report – 6/18/2009 to 6/24/2009

1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, June 18, through Wednesday, June 24, 2009.

2. Spacecraft Summary (submitted by Deb McCabe, June 25)

06/18	06/19	06/20	06/21	06/22	06/23	06/24
169	170	171	172	173	174	175

An XPS calibration was performed 2009/171-01:25:05

OBC patch 6.9 was installed for the torque speed loop. This patch will allow a “ratty” reaction wheel to continue to operate while in 3 wheel control. Patch was applied at 175/19:02:15, however the pointing performance has degraded with the 3 nominally functioning reaction wheels. The patch will be un-installed.

There were three MU read zero event this week:

2009/172-09:25:17

2009/172-10:01:37

2009/174-02:04:46

GCI lockups:			(MINUTES)	Lat	Lon
Instrument	Lockup Time	Response Time	Duration		
solstice_a	2009/170-18:39:30	2009/170-20:02:55	83.42	37.3	176.6
solstice_a	2009/172-18:09:20	2009/172-18:59:13	49.88	-15.2	-55.1
solstice_a	2009/173-20:11:39	2009/173-20:52:57	41.30	-33.9	-58.3
solstice_a	2009/174-20:29:44	2009/174-21:09:31	39.78	-37.2	-57.9
solstice_b	2009/169-22:25:36	2009/169-23:00:16	34.67	-35.8	-60.2
solstice_b	2009/171-21:24:21	2009/171-21:56:41	32.33	-39.7	-34.4
sim_a	2009/169-22:29:33	2009/169-22:58:46	29.22	-39.3	-43.0
sim_a	2009/170-22:53:29	2009/170-23:15:34	22.08	-36.4	-15.1
sim_a	2009/171-02:12:04	2009/171-02:29:49	17.75	-29.9	-47.4
sim_a	2009/172-00:52:52	2009/172-01:09:25	16.55	-25.4	-24.9
sim_a	2009/173-02:42:07	2009/173-03:03:11	21.07	-31.0	-70.6
sim_a	2009/173-23:40:20	2009/174-00:05:34	25.23	-35.7	-43.9
sim_a	2009/175-20:46:08	2009/175-20:53:59	7.85	-38.2	-63.6
sim_b	2009/169-03:15:47	2009/169-03:33:22	17.58	-33.7	-60.0
sim_b	2009/170-22:47:20	2009/170-23:15:39	28.32	-39.9	-42.4
sim_b	2009/171-00:35:39	2009/171-00:52:46	17.12	-28.7	-20.3
sim_b	2009/172-18:19:37	2009/172-18:26:31	6.90	-34.6	-21.2
sim_b	2009/172-19:52:21	2009/172-20:03:37	11.27	-27.6	-61.7
sim_b	2009/172-23:27:26	2009/172-23:49:02	21.60	-32.3	-24.1
sim_b	2009/173-02:46:52	2009/173-03:03:16	16.40	-22.2	-55.1
sim_b	2009/173-21:52:43	2009/173-21:57:32	4.82	-38.4	-66.3
sim_b	2009/174-23:55:51	2009/175-00:22:13	26.37	-35.5	-54.0
sim_b	2009/175-19:10:13	2009/175-19:16:57	6.73	-38.9	-34.4
tim	2009/169-20:46:14	2009/169-21:23:04	36.83	-32.7	-44.5
tim	2009/170-19:16:10	2009/170-19:27:25	11.25	-16.6	-57.3
tim	2009/171-02:16:25	2009/171-02:31:13	14.80	-21.5	-33.2
tim	2009/172-04:09:55	2009/172-04:25:03	15.13	-19.3	-65.2
tim	2009/172-19:55:01	2009/172-20:00:57	5.93	-32.2	-52.3
tim	2009/173-01:06:42	2009/173-01:27:29	20.78	-28.4	-40.5
tim	2009/173-20:08:34	2009/173-20:17:44	9.17	-29.0	-69.5
tim	2009/175-07:43:56	2009/175-07:54:25	10.48	-30.3	109.8
tim	2009/175-19:01:27	2009/175-19:14:17	12.83	-27.4	-68.6
XPS	2009/169-19:05:10			-25.8	-33.6

XPS	2009/170-20:59:43	-29.6	-61.8
XPS	2009/171-21:23:30	-39.4	-38.2
XPS	2009/172-09:40:25	35.2	-2.2
XPS	2009/172-23:22:31	-38.1	-43.6
XPS	2009/173-16:47:51	-15.5	-40.5
XPS	2009/173-20:10:40	-32.6	-61.8

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	7	10	4	2	9	7
Total	2012	2574	1391	1648	2233	2083

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

Fourteen ground station contacts were performed over the past week.

	Captured VCDUS	Recorded VCDUS	%
SC housekeeping	320344	320345	100
IM housekeeping	43927	43928	100
Science	327143	327144	100

4. Instrument Status

4.1. TIM

4.2. SIM (submitted by Jerry Harder, June 25)

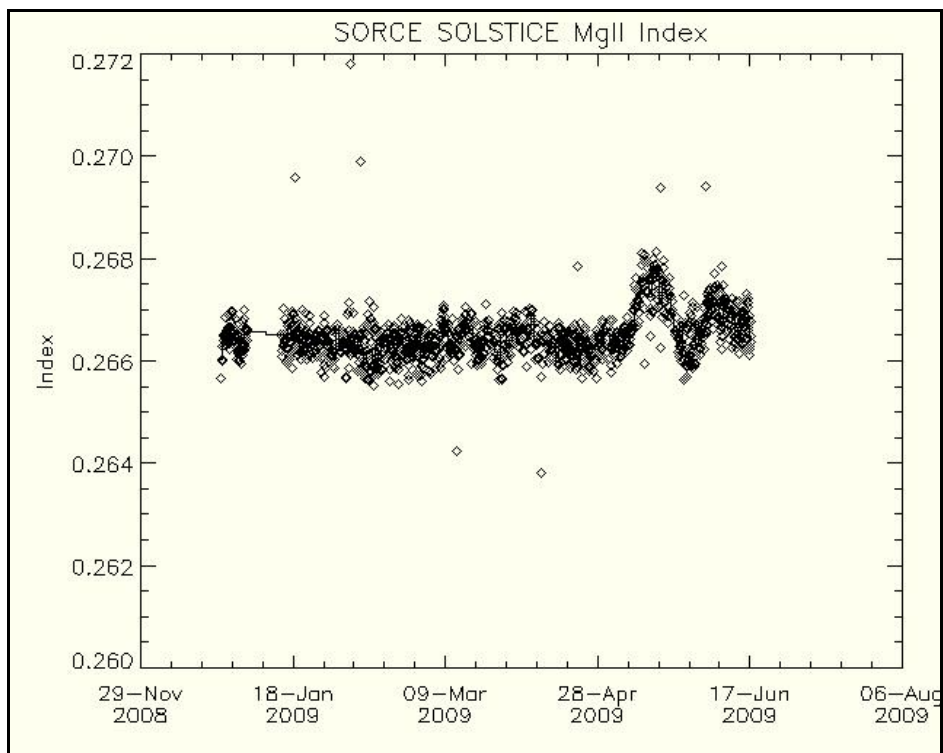
For days 2009/169 (June 18) to 2009/176 (June 25):

• 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	2	2
-- Image Dark	1	0
-- Image Light	1	1
-- Servo Gain 20 sec half cycle	2	2
-- Servo Gain 50 sec half cycle	1	1
-- Cruciform Scans	0	0
-- FOV Maps	0	0
• Science Activities:	<u>SIM A</u>	<u>SIM B</u>
-- ESR Full Scan Segments	15	15
-- ESR Table Scan Segments	7	7
-- 24-minute Scans	26	17
-- 24-minute Scans w/ HRT	0	0
-- IR scans	4	1

4.3. **SOLSTICE** (submitted by Marty Snow, June 24)

For days 2009/168 (June 17) to 2009/175 (June 24):

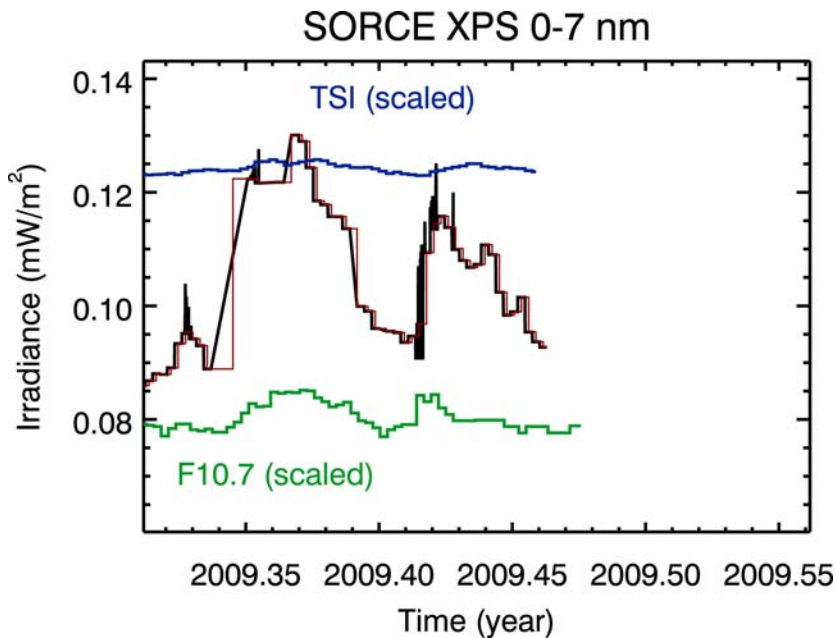
- SOLSTICE A grating drive errors: None
2009/170, 20:03:53
2009/174, 21:11:09
- SOLSTICE B grating drive errors: None
- Data Gaps for SOLSTICE A (date, length in minutes):
2009/170, 20:03:42 84 minutes
2009/172, 19:00:01 51 minutes
2009/173, 20:53:45 42 minutes
2009/174, 21:10:19 41 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):
2009/169, 23:01:03 35 minutes
2009/171, 21:57:28 33 minutes



4.4. **XPS** (submitted by Tom Woods, 24 June)

For days 2009/163 (June 12) to 2009/174 (June 23):

- Number of XPS GCI errors: 12
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration:
1121.00 sec (19 integrations) at 2009/171 1:27
- Flares: None above class M1.0



5. Planning (automated report submitted by Jay Kominek, June 25)

Plans completed 18 June – 25 June:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	356	12:43
Stellar Rolls	480	15:05
Ram Avoidance	0	0:00
Solar Alignment	4	1:31
Stellar Alignment	0	0:00
Field of View Maps	0	0:00
FSS Calibration	0	0:00
Station Contacts	16	3:20
GCI Checks	829	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

SIM A (Primary)

Solar Activity	Total	Total Time
ESR Mode	7	4:24
ESR Mode with HRT	0	0:00
IR Scan	5	4:31
Quick Scan	25	10:06
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	13	7:42
Dark	50	0:37
Special Activity		
Power Cycle Checks	207	13:48

SIM B (Secondary)

Solar Activity	Total	Total Time
ESR Mode	7	4:24
ESR Mode with HRT	0	0:00
IR Scan	1	0:52
Quick Scan	15	6:03
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	13	7:42
Dark	30	0:22
Special Activity		
Power Cycle Checks	207	13:30

SOLSTICE A (MUV)

Solar Activity	Total	Total Time
Normal Scan	93	66:29
Quick Scan	62	12:47
Mini Quick Scan	56	11:17
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	1:00
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	74:11
Quick Scan	64	9:21
Mini Quick Scan	56	8:03
Stellar Activity		
Fixed Wavelength	594	22:24
Companion	66	3:41
Stellar Scan	15	1:54
Zero Order Scan	355	10:26
Number Unique Targets	42	40:05
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	6	0:55
FUV Stellar Alignment	1	0:09
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	89:19
Normal Eclipse	103	58:35
Calibration Activity		
Degradation A	1	0:55
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	1:38
Field of View Map	0	0:00
Special Activity		
Power Cycle Checks	207	8:54

XPS

Calibration Activity		
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, 25 June 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, 25 June 2009)

- Status
 - Modifications of software are being evaluated to fix problems in the version 10 data. Reprocessing will begin soon.
 - 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.

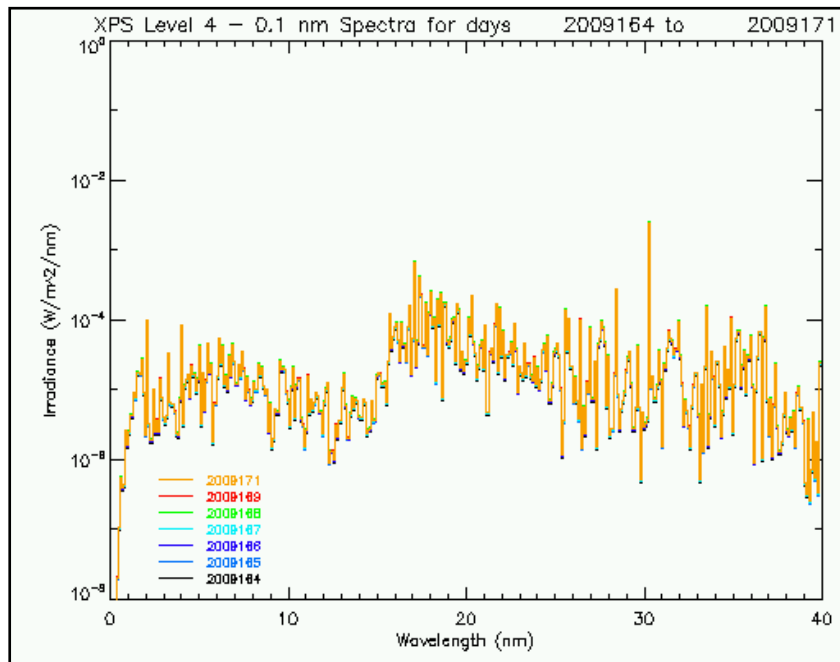
SIM (submitted by Doug Lindholm, 25 June 2009)

- Status
 - The routine processing of version 17 data is ongoing.
 - The level 3 data products are available on the SORCE web site and LISIRD.
- Work in Progress
 - Calibration to improve the quality of early mission data.
 - Testing of new SIM exposure time algorithm.
- Future Plans
 - Process SIM B.
 - Investigate UV degradation.
 - Consider field of view correction for data affected by the filter wheel anomaly.

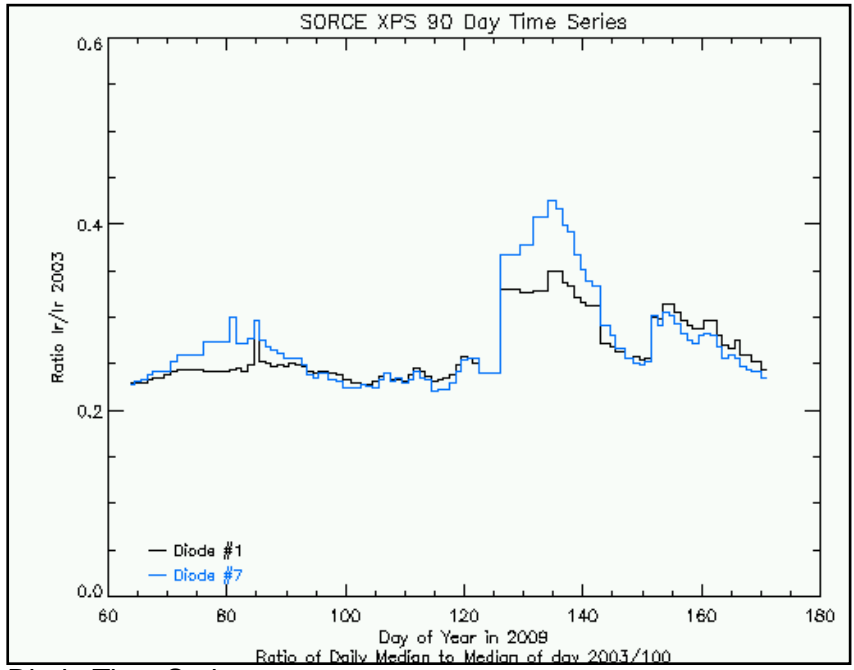
XPS (submitted by Brian Templeman, 25 June 2009)

- 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 2009/164 to 2009/171

Total level 1b Observations Processed:	24311
Percent used in level 2 Processing:	59.7878
Total level 3 Observations Processed:	14535



Weekly Image



Diode Time Series