

SORCE Weekly Status Report – 7/09/2009 to 7/15/2009

1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, July 9, through Wednesday, July 15, 2009.

2. Spacecraft Summary (submitted by Deb McCabe, July 16)

07/09	07/10	07/11	07/12	07/13	07/14	07/15
190	191	192	193	194	195	196

There were six MU read zero event this week:

2009/190-04:43:08
 2009/190-11:19:28
 2009/190-20:55:10
 2009/191-08:02:20
 2009/192-07:27:54
 2009/192-09:59:50

There were multiple DSP load failures on DOY 190-14:23:04 on SOLSTICE A resulting in 3 nominal experiments which did not execute. The instrument recovered during the Science SPAM check at 15:58:55.

DSP accept packets for all instruments were disabled to eliminate unnecessary data traffic across the MU – S/C interface which will minimize latency of critical telemetry packets. This was accomplished on WPS 35042.

GCI lockups:

Instrument	Lockup Time	Response Time	(MINUTES) Duration	Lat	Lon
solstice_a	2009/190-09:54:30	2009/190-11:07:07	72.62	-24.2	-32.9
solstice_a	2009/190-13:16:53	2009/190-14:21:45	64.87	-37.2	-51.8
solstice_a	2009/192-17:26:03	2009/192-18:15:55	49.87	-12.7	-28.8
solstice_a	2009/193-07:26:21	2009/193-08:51:26	85.08	-23.5	-15.8
solstice_a	2009/193-15:57:02	2009/193-16:57:46	60.73	-28.1	-36.6
solstice_a	2009/194-07:40:31	2009/194-09:10:15	89.73	-20.9	-30.1
solstice_a	2009/195-09:38:12	2009/195-11:05:49	87.62	-31.0	-47.9
solstice_a	2009/195-16:25:56	2009/195-17:34:38	68.70	-31.5	-64.3
solstice_a	2009/196-09:55:13	2009/196-11:23:47	88.57	-33.5	-52.5
solstice_b	2009/190-18:26:47	2009/190-19:13:40	46.88	-24.3	-48.3
solstice_b	2009/191-11:23:19	2009/191-11:26:57	3.63	28.7	-135.1
solstice_b	2009/191-17:01:54	2009/191-17:56:15	54.35	-30.6	-45.3
solstice_b	2009/192-10:31:01	2009/192-11:46:39	75.63	-34.1	-33.8
solstice_b	2009/192-12:12:16	2009/192-13:23:57	71.68	-38.6	-41.3
solstice_b	2009/193-15:57:42	2009/193-16:57:41	59.98	-26.9	-34.4
solstice_b	2009/194-17:58:40	2009/194-18:53:34	54.90	-8.3	-44.6
solstice_b	2009/195-11:21:40	2009/195-12:42:56	81.27	-38.8	-46.5
solstice_b	2009/196-08:18:56	2009/196-09:46:30	87.57	-34.5	-25.1
sim_a	2009/190-09:59:55	2009/190-10:53:11	53.27	-33.6	-14.3
sim_a	2009/191-11:47:27	2009/191-12:47:40	60.22	-25.3	-66.2
sim_a	2009/191-17:05:53	2009/191-17:39:05	33.20	-23.1	-32.1
sim_a	2009/192-12:05:52	2009/192-13:04:33	58.68	-30.7	-66.7
sim_a	2009/192-15:33:29	2009/192-16:18:47	45.30	-38.8	-58.2
sim_a	2009/193-09:05:27	2009/193-10:06:59	61.53	-27.7	-33.6
sim_a	2009/194-10:55:56	2009/194-12:00:36	64.67	-23.6	-75.5
sim_a	2009/194-12:50:17	2009/194-13:37:41	47.40	-38.7	-28.9
sim_a	2009/195-07:56:19	2009/195-09:02:50	66.52	-21.8	-39.2
sim_a	2009/195-16:28:35	2009/195-17:08:18	39.72	-26.8	-55.1
sim_a	2009/196-15:03:46	2009/196-15:47:36	43.83	-32.2	-51.7

sim_b	2009/190-18:31:30	2009/190-18:59:07	27.62	-14.3	-34.6
sim_b	2009/191-16:59:57	2009/191-17:39:10	39.22	-33.4	-52.1
sim_b	2009/194-09:11:58	2009/194-10:23:35	71.62	-8.4	-70.3
sim_b	2009/195-07:57:55	2009/195-09:02:55	65.00	-24.9	-34.5
tim	2009/191-10:07:20	2009/191-11:07:57	60.62	-18.8	-51.1
tim	2009/191-17:00:50	2009/191-17:36:30	35.67	-32.2	-49.0
tim	2009/192-10:35:06	2009/192-11:24:51	49.75	-38.5	-17.2
tim	2009/192-18:56:04	2009/192-19:30:25	34.35	-27.5	-74.4
tim	2009/193-09:03:02	2009/193-10:04:23	61.35	-22.8	-41.6
tim	2009/193-12:24:56	2009/193-13:18:37	53.68	-35.9	-63.3
tim	2009/193-17:43:14	2009/193-18:09:54	26.67	-8.6	-34.4
tim	2009/194-07:39:17	2009/194-08:43:49	64.53	-18.4	-33.5
tim	2009/194-09:20:25	2009/194-10:20:55	60.50	-26.6	-45.9
tim	2009/194-11:07:57	2009/194-11:58:01	50.07	-39.7	-28.2
XPS	2009/190-09:52:34			-20.0	-39.0
XPS	2009/190-09:58:06			-30.7	-21.1
XPS	2009/190-11:30:15			-21.4	-61.8
XPS	2009/191-10:06:03			-15.8	-55.0
XPS	2009/191-10:14:39			-32.7	-26.9
XPS	2009/191-12:22:37			-5.3	64.1
XPS	2009/191-17:04:01			-26.7	-37.9
XPS	2009/191-18:48:47			-10.3	-40.3
XPS	2009/192-10:31:36			-34.8	-31.8
XPS	2009/192-17:16:05			-32.5	-60.2
XPS	2009/193-12:27:18			-38.4	-52.7
XPS	2009/196-08:11:40			-21.7	-49.9

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	11	4	9	9	10	12
Total	2039	2595	1413	1673	2261	2109

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	330070	330071	100
IM housekeeping	44150	44151	100
Science	321570	321571	100

4. Instrument Status

4.1. TIM (submitted by Greg Kopp, 15 July)

TIM operations during previous week

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

Current work

- Normal operations
 - Version 9 data processing provides daily updated TSI values
- Instrument temperatures peaked with orbit parameters and are returning to normal

TIM anomalies during previous week

- None

4.2. SIM (submitted by Jerry Harder, July 16)

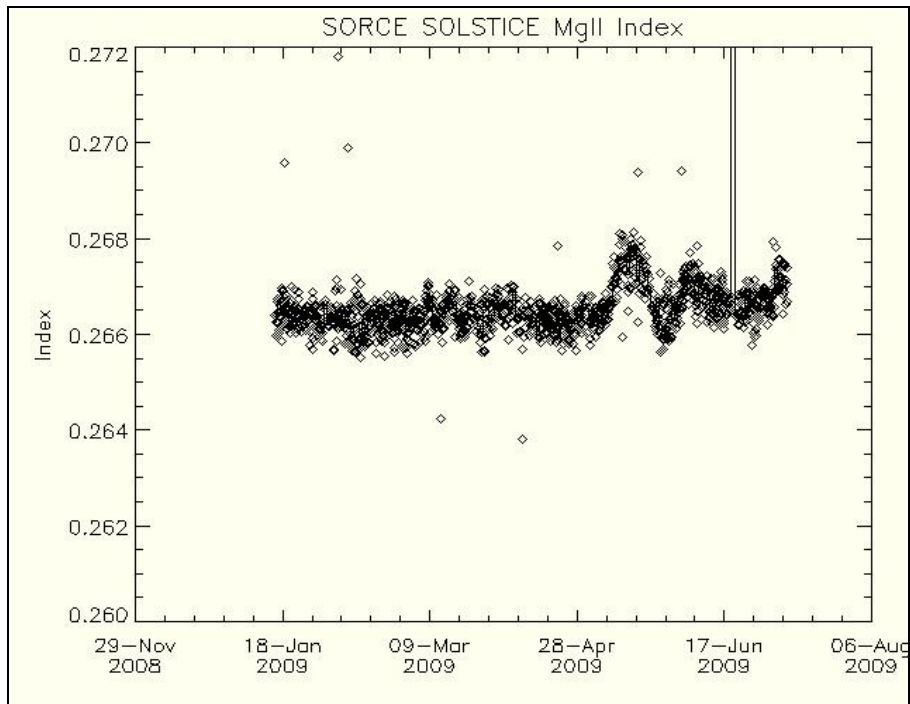
For days 2009/190 (July 9) to 2009/197 (July 16):

• 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	0	0
-- ESR Table Scan Segments	7	0
-- 24-minute Scans	14	0
-- 24-minute Scans w/ HRT	0	0
-- IR scans	7	0

4.3. SOLSTICE (submitted by Marty Snow, July 15)

For days 2009/189 (July 8) to 2009/196 (July 15):

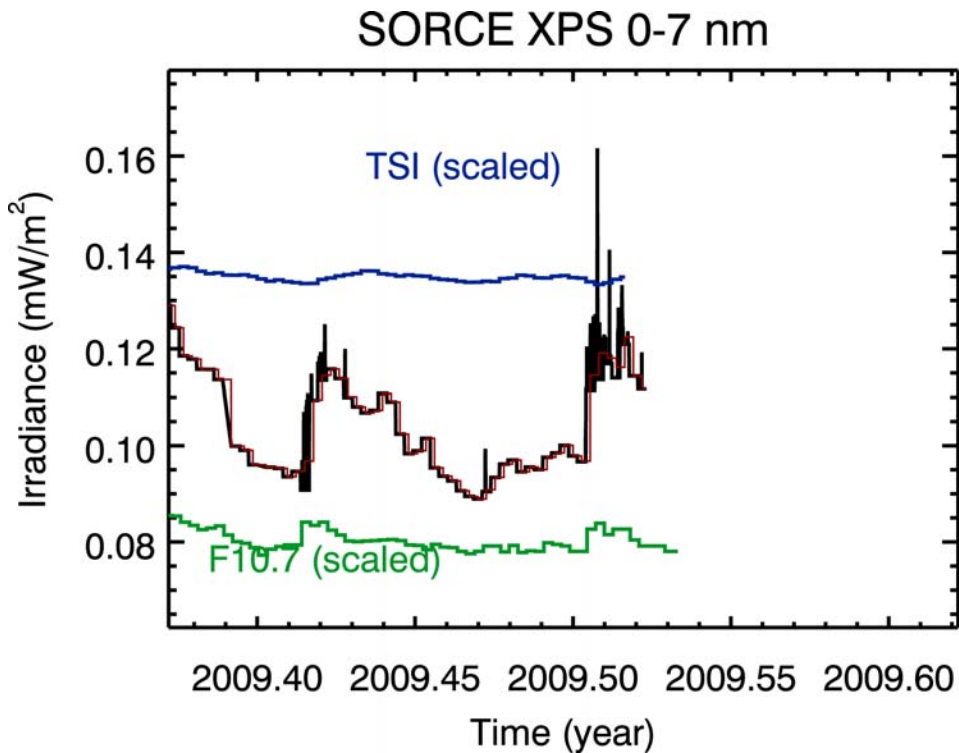
- SOLSTICE A grating drive errors:
2009/190, 11:08:45
2009/193, 08:52:24
2009/193, 16:59:31
- SOLSTICE B grating drive errors: None
- Data Gaps for SOLSTICE A (date, length in minutes):
2009/190, 11:07:54 73 minutes
2009/190, 14:22:32 66 minutes
2009/192, 18:16:42 51 minutes
2009/193, 08:52:13 86 minutes
2009/193, 16:58:39 62 minutes
2009/194, 09:11:02 91 minutes
2009/195, 11:06:36 88 minutes
2009/195, 17:35:26 69 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):
2009/189, 18:54:37 45 minutes
2009/190, 19:14:28 48 minutes
2009/191, 11:27:45 4 minutes
2009/191, 17:57:02 55 minutes
2009/192, 11:47:26 76 minutes
2009/192, 13:24:44 72 minutes
2009/193, 16:58:43 61 minutes
2009/194, 18:54:21 56 minutes
2009/195, 12:43:44 82 minutes



4.4. XPS (submitted by Tom Woods, 15 July)

For days 2009/184 (July 3) to 2009/195 (July 14):

- Number of XPS GCI errors: 14
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration: None
- Flares: None above class M1.0



5. **Planning** (automated report submitted by Jay Kominek, July 16)

Plans completed 09 July – 16 July:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	446	15:08
Stellar Rolls	315	9:44
Ram Avoidance	0	0:00
Solar Alignment	4	1:23
Stellar Alignment	0	0:00
Field of View Maps	0	0:00
FSS Calibration	0	0:00
Station Contacts	17	3:09
GCI Checks	827	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

SIM A (Primary)

Solar Activity	Total	Total Time
ESR Mode	7	6:30
ESR Mode with HRT	0	0:00
IR Scan	7	8:09
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	207	13:48

SIM B (Secondary)

Solar Activity	Total	Total Time
ESR Mode	0	0:00
ESR Mode with HRT	0	0:00
IR Scan	0	0:00
Quick Scan	0	0:00
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	0	0:00
Special Activity		
Power Cycle Checks	207	13:30

SOLSTICE A (MUV)

Solar Activity	Total	Total Time
Normal Scan	93	85:40
Quick Scan	43	11:55
Mini Quick Scan	34	9:49
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	1:06
Fixed Wavelength	0	0:00
AB Comparison	1	1:08
Mini 64 Scan	7	8:07
MUV Solar Alignment	2	0:41
FUV Solar Alignment	2	0:41
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	103	4:26
Step Response Test	1	0:02

SOLSTICE B (FUV)

Solar Activity	Total	Total Time
Normal Scan	95	93:55
Quick Scan	43	8:03
Mini Quick Scan	36	6:41
Stellar Activity		
Fixed Wavelength	210	10:01
Companion	57	3:19
Stellar Scan	27	4:33
Zero Order Scan	258	7:33
Number Unique Targets	34	25:44
Calibration Activity		
Fixed Wavelength	0	0:00
AB Comparison	1	1:08
Mini 64 Seam	7	8:07
MUV Solar Alignment	2	0:41
FUV Solar Alignment	2	0:41
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	103	4:34
Step Response Test	1	0:02

TIM

Solar Activity	Total	Total Time
Normal Solar	100	120:57
Normal Eclipse	101	36:21
Calibration Activity		
Degradation A	1	1:07
Degradation C	1	1:07
Aliveness D	1	1:07
Gain Calibration AB	0	0:00

Gain Calibration CD	0	0:00
Solar Alignment	2	1:27
Field of View Map	0	0:00
Special Activity		
Power Cycle Checks	207	8:54

XPS

Calibration Activity

Calibration	0	0:00
-------------	---	------

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.

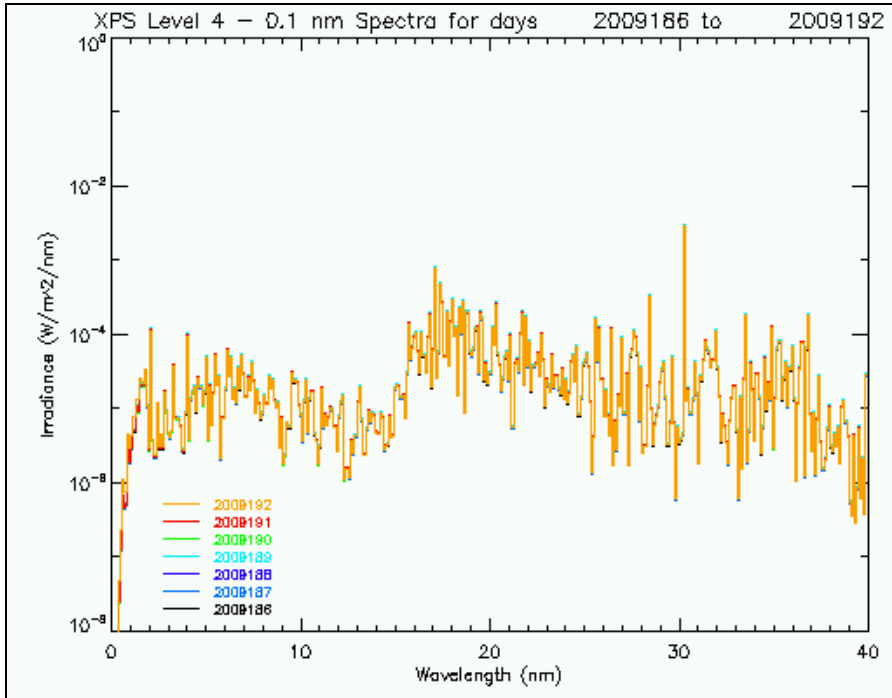
SIM (submitted by Doug Lindholm, 25 June 2009)

- 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.

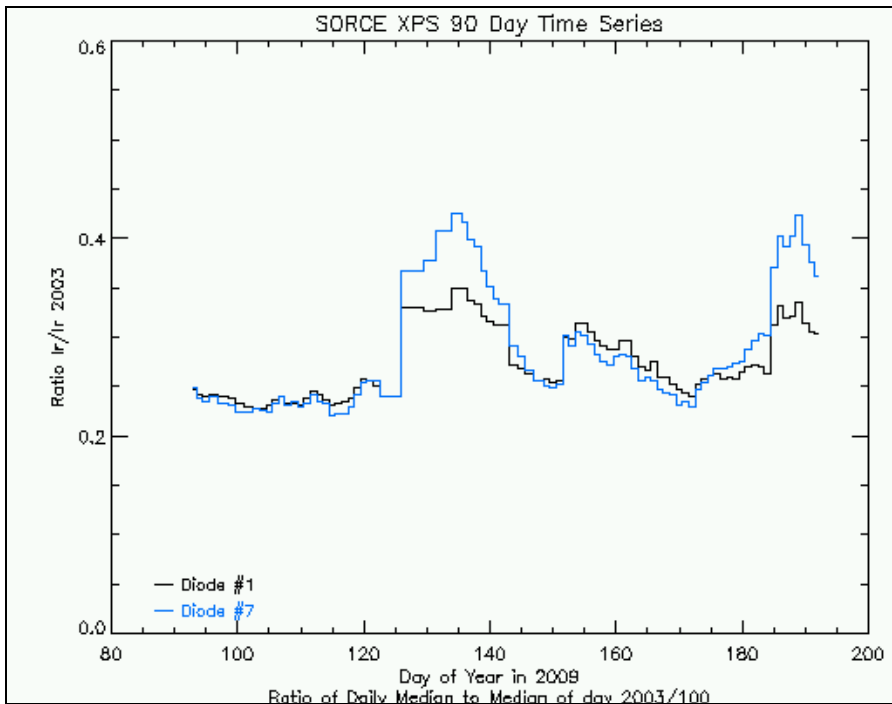
XPS (submitted by Brian Templeman, 17 July 2009)

- 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 2009/186 to 2009/192**

Total level 1b Observations Processed:	16171
Percent used in level 2 Processing:	91.3487
Total level 3 Observations Processed:	14772



Weekly Image



Diode Time Series