

SORCE Weekly Status Report – 5/7/2009 to 5/13/2009

1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, May 7, through Wednesday, May 13, 2009.

2. Spacecraft Summary (submitted by Deb McCabe, 07 May)

05/06	05/07	05/08	05/09	05/10	05/11	05/12
127	128	129	130	131	132	133

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

2009/127-21:53:27

2009/131-21:53:28

GCI lockups:

(MINUTES)

Instrument	Lockup Time	Response Time	Duration	Lat	Lon
solstice_a	2009/130-10:40:23	2009/130-11:42:18	61.92	-24.6	-13.7
solstice_a	2009/130-13:56:34	2009/130-14:56:34	60.00	-28.6	-56.2
solstice_a	2009/131-10:50:09	2009/131-11:59:21	69.20	-12.6	-40.4
solstice_b	2009/127-11:28:47	2009/127-12:29:11	60.40	-19.9	-14.1
solstice_b	2009/128-13:18:59	2009/128-14:22:55	63.93	-14.9	-55.7
solstice_b	2009/130-15:42:11	2009/130-16:33:37	51.43	-39.3	-46.5
solstice_b	2009/131-15:59:13	2009/131-16:50:43	51.50	-39.9	-49.7
solstice_b	2009/132-19:47:00	2009/132-20:22:35	35.58	-16.5	-39.6
sim_a	2009/127-16:27:20	2009/127-16:52:59	25.65	-33.6	-63.4
sim_a	2009/127-20:05:47	2009/127-20:33:13	27.43	-19.0	-15.5
sim_a	2009/129-11:52:43	2009/129-12:37:41	44.97	-3.9	-54.1
sim_a	2009/129-13:37:03	2009/129-14:14:55	37.87	-20.6	-58.7
sim_a	2009/129-22:13:08	2009/129-22:21:05	7.95	-20.1	-62.6
sim_a	2009/130-12:09:39	2009/130-12:56:19	46.67	-7.7	-60.3
sim_a	2009/130-15:40:02	2009/130-16:10:49	30.78	-37.7	-56.0
sim_a	2009/131-17:50:52	2009/131-18:07:03	16.18	-24.4	-15.6
sim_a	2009/132-19:48:20	2009/132-20:03:31	15.18	-13.5	-35.9
sim_a	2009/133-11:22:55	2009/133-12:16:15	53.33	-16.8	-56.1
sim_a	2009/133-13:06:24	2009/133-13:53:31	47.12	-29.8	-60.5
sim_a	2009/133-18:12:00	2009/133-18:45:19	33.32	-38.5	-72.8
sim_b	2009/127-14:47:34	2009/127-15:15:53	28.32	-29.0	-48.8
sim_b	2009/128-15:23:33	2009/128-15:33:53	10.33	-31.8	26.4
sim_b	2009/129-13:40:34	2009/129-14:15:01	34.45	-27.6	-47.7
sim_b	2009/130-13:54:05	2009/130-14:33:39	39.57	-23.9	-64.3
sim_b	2009/131-17:40:42	2009/131-18:07:08	26.43	-38.9	-54.2
sim_b	2009/131-19:26:11	2009/131-19:44:25	18.23	-27.7	-45.8
sim_b	2009/132-12:58:49	2009/132-13:34:28	35.65	-39.2	-18.3
sim_b	2009/132-17:52:42	2009/132-18:26:19	33.62	-40.0	-80.0
sim_b	2009/132-19:46:24	2009/132-20:03:35	17.18	-18.0	-41.5
sim_b	2009/133-11:25:39	2009/133-12:16:21	50.70	-22.9	-47.8
sim_b	2009/133-13:20:17	2009/133-13:53:37	33.33	-38.9	-1.3
tim	2009/127-11:23:29	2009/127-11:58:50	35.35	-7.9	-28.9
tim	2009/127-13:02:31	2009/127-13:36:01	33.50	-12.4	-48.3
tim	2009/130-20:52:05	2009/130-21:00:01	7.93	-19.2	-47.0
tim	2009/130-22:27:28	2009/130-22:37:16	9.80	-22.4	-76.3
tim	2009/131-11:05:22	2009/131-11:35:23	30.02	-38.6	12.1
tim	2009/133-13:06:49	2009/133-13:50:56	44.12	-30.6	-58.7
XPS	2009/127-14:44:38			-23.6	-58.1
XPS	2009/128-21:54:36			-26.7	-62.3
XPS	2009/129-15:18:18			-29.0	-69.7
XPS	2009/129-17:07:17			-39.9	-45.5
XPS	2009/129-18:47:08			-38.7	-56.8
XPS	2009/129-18:58:22			-21.8	-15.5

XPS	2009/129-20:29:50	-32.1	-58.7
XPS	2009/130-13:59:19	-33.3	-46.0
XPS	2009/130-19:14:32	-20.2	-23.7
XPS	2009/131-21:06:59	-20.2	-58.8
XPS	2009/132-11:06:39	-15.1	-47.8
XPS	2009/132-18:05:15	-26.5	-29.5
XPS	2009/133-15:05:05	-29.3	4.3
XPS	2009/133-18:17:04	-32.7	-52.5
XPS	2009/133-21:39:58	-15.2	-73.2

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	12	11	3	5	6	15
Total	1969	2516	1355	1618	2185	2034

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	320056	320057	100
IM housekeeping	43659	43660	100
Science	313688	313689	100

4. Instrument Status

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

TIM operations during previous week

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

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, May 14)

For days 2009/127 (May 7) to 2009/134 (May 14):

• 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	1	1
-- IR scans	7	0
- Additional Activities:
Version 17 of SIM data processing complete, verified and is available through the SORCE web page

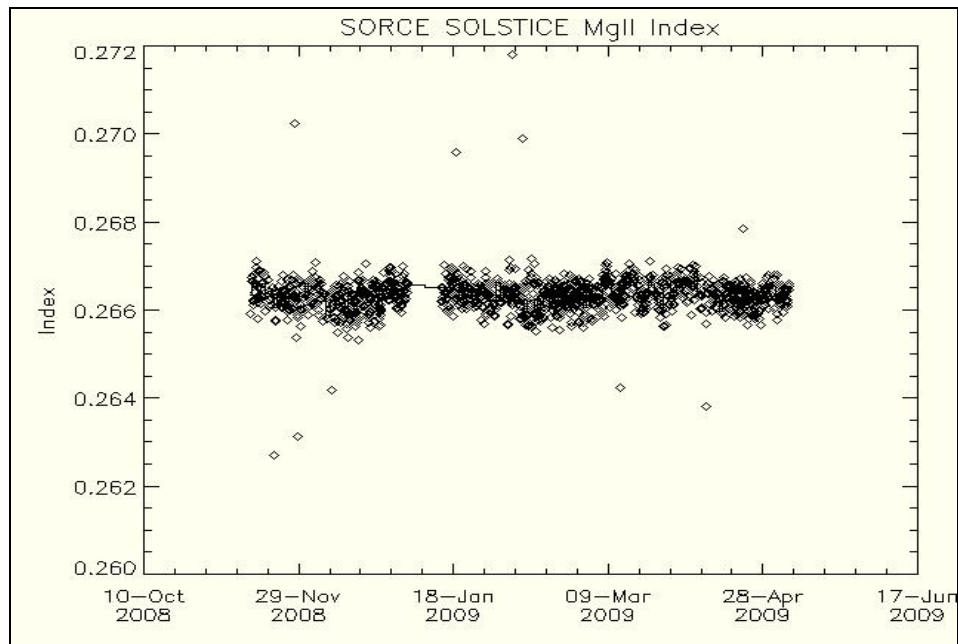
4.3. SOLSTICE (submitted by Marty Snow, May 13)

For days 2009/126 (May 6) to 2009/133 (May 13):

- SOLSTICE A grating drive errors: None
- SOLSTICE B grating drive errors: None
- Data Gaps for SOLSTICE A (date, length in minutes):

2009/126, 15:27:49	55 minutes
2009/130, 11:43:06	63 minutes
2009/130, 14:57:22	61 minutes
2009/131, 12:00:08	70 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):

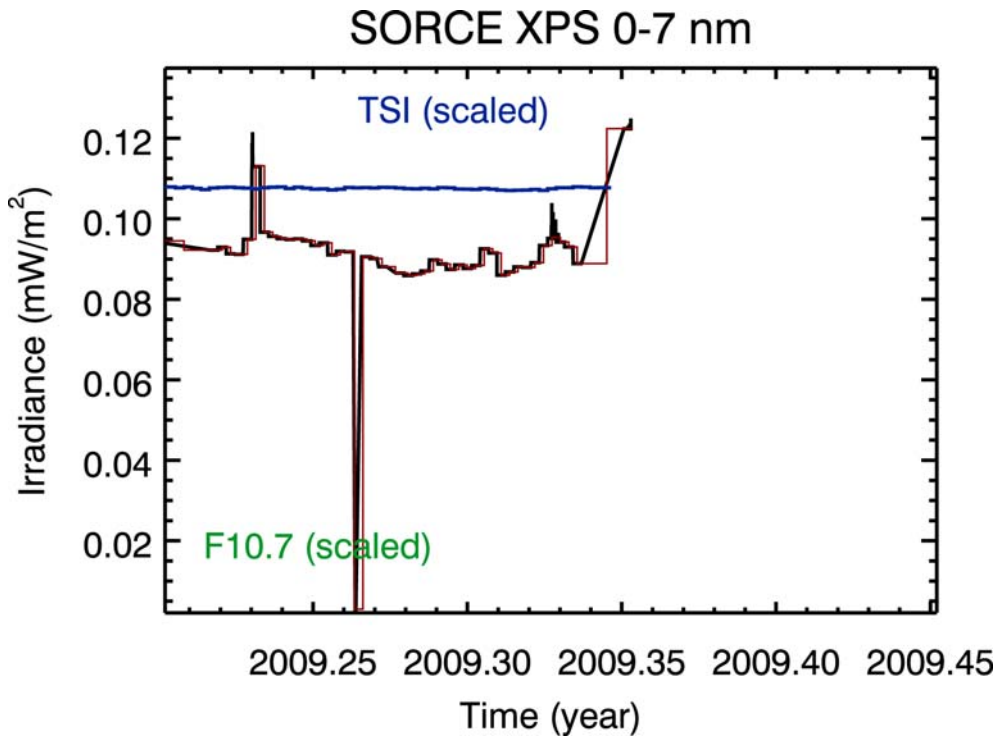
2009/126, 13:50:32	56 minutes
2009/126, 15:27:54	59 minutes
2009/127, 12:29:58	61 minutes
2009/128, 14:23:43	65 minutes
2009/130, 16:34:25	52 minutes
2009/131, 16:51:30	52 minutes
2009/132, 20:23:22	36 minutes



4.4. **XPS** (submitted by Tom Woods, 14 May)

For days 2009/122 (2 May) to 2009/133 (13 May):

- Number of XPS GCI errors: 22
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration: None
- Flares: No GOES data for checking on flare magnitude



5. **Planning** (automated report submitted by Jay Kominek, May 14)

Plans completed 07 May – 14 May:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	429	15:15
Stellar Rolls	408	11:32
Ram Avoidance	0	0:00
Solar Alignment	4	1:22
Stellar Alignment	0	0:00
Field of View Maps	0	0:00
FSS Calibration	0	0:00
Station Contacts	14	2:35
GCI Checks	826	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

SIM A (Primary)

Solar Activity	Total	Total Time
ESR Mode	7	5:17
ESR Mode with HRT	0	0:00
IR Scan	7	7:55
Quick Scan	14	5:39
Quick Scan HRT	1	0:24

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	30	0:22

Special Activity

Power Cycle Checks	208	13:52
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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	1	0:24

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	2	0:01

Special Activity

Power Cycle Checks	208	13:34
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SOLSTICE A (MUV)**Solar Activity** **Total** **Total Time**

Normal Scan	93	84:36
Quick Scan	42	11:45
Mini Quick Scan	36	10:16

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	1:10
Fixed Wavelength	0	0:00
AB Comparison	1	1:07
Mini 64 Scan	7	7:57
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	96	92:55
Quick Scan	43	8:02
Mini Quick Scan	36	6:50
Stellar Activity		
Fixed Wavelength	212	8:54
Companion	6	0:21
Stellar Scan	58	11:34
Zero Order Scan	254	7:26
Number Unique Targets	40	28:32
Calibration Activity		
Fixed Wavelength	0	0:00
AB Comparison	1	1:07
Mini 64 Seam	7	7:57
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	4:37
Step Response Test	1	0:02

TIM

Solar Activity	Total	Total Time
Normal Solar	102	117:33
Normal Eclipse	102	39:51
Calibration Activity		
Degradation A	1	1:15
Degradation C	0	0:00
Aliveness D	0	0:00
Gain Calibration AB	0	0:00
Gain Calibration CD	1	6:00
Solar Alignment	2	1:27
Field of View Map	0	0:00
Special Activity		
Power Cycle Checks	201	8:39

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, 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, 14 May 2009)

- Status
 - Modifications of software are being made 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, 14 May 2009)

- Status
 - Version 17 data products have been evaluated and released.
 - The routine processing of version 17 data will resume soon.
 - 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, 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