

SORCE Weekly Status Report – 7/23/2009 to 7/29/2009

1. Introduction

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

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

07/23	07/24	07/25	07/26	07/27	07/28	07/29
204	205	206	207	208	209	210

There was one MU read zero event this week:
2009/210-14:01:22

An XPS calibration was performed 2009/205-07:58:25

SOLSTICE B had multiple grating drive errors which were eventually recovered by RTS response.

2009/209-13:29:53.753 SSC007: RTS Number 065 Started
 2009/209-13:32:49.753 SSC007: RTS Number 065 Started
 2009/209-13:33:25.553 SSC007: RTS Number 065 Started
 2009/209-13:34:00.753 SSC007: RTS Number 065 Started

The 1553 telemetry buffer overrun during DSP loads after a SIM B power on (due to a SPaM reset) on DOY 200-13:39 was due to a failed DPS load (probably due to the Read 0 bug). This resulted in the DSP executing that bad load, and generating a flood of MU telemetry. A FLAWS will be opened to document this non-harmful event.

GCI lockups:			(MINUTES)		
Instrument	Lockup Time	Response Time	Duration	Lat	Lon
solstice_a	2009/204-05:23:09	2009/204-05:34:55	11.77	-20.1	-61.4
solstice_a	2009/204-12:16:40	2009/204-13:40:30	83.83	-31.0	-58.2
solstice_a	2009/207-09:46:56	2009/207-11:16:29	89.55	-34.1	-47.6
solstice_a	2009/210-03:50:44	2009/210-04:01:13	10.48	-36.0	-42.7
solstice_b	2009/205-04:04:35	2009/205-04:14:29	9.90	-26.2	-37.9
solstice_b	2009/207-04:37:44	2009/207-04:47:56	10.20	-30.5	-50.7
solstice_b	2009/207-11:29:11	2009/207-12:53:31	84.33	-24.9	-53.5
solstice_b	2009/207-16:05:37	2009/207-16:07:45	2.13	-39.8	173.0
solstice_b	2009/208-04:56:31	2009/208-05:04:41	8.17	-35.6	-48.1
solstice_b	2009/208-06:31:49	2009/208-06:41:47	9.97	-33.2	-79.4
solstice_b	2009/209-11:58:54	2009/209-13:27:02	88.13	-27.1	-78.0
solstice_b	2009/210-10:41:09	2009/210-12:06:45	85.60	-19.0	-51.4
sim_a	2009/207-06:22:18	2009/207-07:29:20	67.03	-39.4	-44.2
sim_a	2009/208-01:35:54	2009/208-01:48:56	13.03	-24.5	-22.6
sim_a	2009/209-08:46:34	2009/209-09:40:07	53.55	-23.8	-23.1
sim_a	2009/210-02:13:10	2009/210-02:22:31	9.35	-35.5	-19.9
sim_b	2009/204-05:25:31	2009/204-05:33:25	7.90	-24.9	-54.2
sim_b	2009/207-06:18:04	2009/207-06:23:38	5.57	-35.4	-62.8
sim_b	2009/207-11:28:55	2009/207-12:20:47	51.87	-25.6	-54.6
sim_b	2009/208-03:10:24	2009/208-03:26:08	15.73	-19.2	-55.0
sim_b	2009/209-10:22:25	2009/209-11:17:21	54.93	-26.1	-51.6
tim	2009/204-07:24:37	2009/204-08:13:54	49.28	-32.5	12.6
tim	2009/205-10:53:44	2009/205-11:44:42	50.97	-33.2	-49.0
tim	2009/209-08:44:16	2009/209-09:37:32	53.27	-28.3	-30.7
tim	2009/210-20:12:04	2009/210-21:14:25	62.35	-37.9	119.7
XPS	2009/204-12:15:22			-33.1	-63.1
XPS	2009/205-02:26:13			-23.6	-17.4
XPS	2009/205-05:39:03			-21.0	-70.6
XPS	2009/205-10:56:38			-28.2	-38.2

XPS	2009/206-04:11:53	-8.4	-71.9
XPS	2009/206-09:30:11	-35.8	-42.2
XPS	2009/207-04:34:47	-24.9	-60.9
XPS	2009/207-13:13:20	-9.2	-57.5
XPS	2009/208-03:14:12	-27.0	-43.0
XPS	2009/209-01:48:54	-19.5	-40.3

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	4	5	4	8	4	10
Total	2050	2612	1420	1688	2272	2123

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	320915	320916	100
IM housekeeping	44715	44716	100
Science	331754	331827	99.98

4. Instrument Status

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

TIM operations during previous week

- Normal Ops (TSI data w/ Cavity B)
- Cavity A&B comparisons
- Gain AB Calibration
- FOV Map

Current work

- Normal operations
 - Version 9 data processing provides daily updated TSI values
- Released data from 22 July show no influence from solar eclipse
 - Automated processing correctly removed these data

TIM anomalies during previous week

- None

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

For days 2009/204 (July 23) to 2009/211 (July 30):

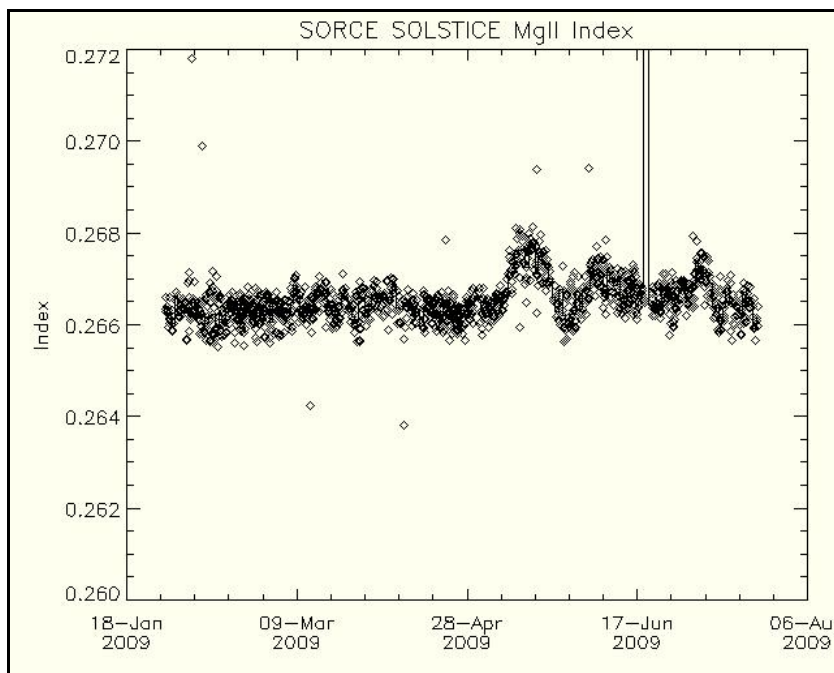
• Calibration Activities:	<u>SIM A</u>	<u>SIM B</u>
-- Prism Calibration A_cal_B	25	25
-- Prism Calibration B_cal_A	25	25
-- CCDDump	2	2
-- Image Dark	1	0
-- Image Light	1	1
-- Servo Gain 20 sec half cycle	2	2
-- Servo Gain 50 sec half cycle	1	1
-- Cruciform Scans	0	0
-- FOV Maps	15	15

• 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	13	0
-- 24-minute Scans w/ HRT	0	0
-- IR scans	7	0

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

For days 2009/203 (July 22) to 2009/210 (July 29):

- SOLSTICE A grating drive errors:
2009/204, 05:36:33
- SOLSTICE B grating drive errors:
2009/209, 13:28:40
2009/209, 13:32:50
- Data Gaps for SOLSTICE A (date, length in minutes):
2009/204, 05:35:43 13 minutes
2009/204, 13:41:17 85 minutes
2009/207, 11:17:16 90 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):
2009/203, 05:18:51 13 minutes
2009/203, 08:33:05 99 minutes
2009/205, 04:15:17 11 minutes
2009/207, 04:48:43 11 minutes
2009/207, 12:54:18 85 minutes
2009/207, 16:08:32 3 minutes
2009/208, 05:05:29 9 minutes
2009/208, 06:42:34 11 minutes
2009/209, 13:27:49 89 minutes



4.4. XPS (submitted by Tom Woods, 29 July)

For days 2009/198 (July 17) to 2009/209 (July 28):

- Number of XPS GCI errors: 13
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration:
1121.00 sec (19 integrations) at 2009/205 8:0
- Flares: None above class M1.0

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

Plans completed 23 July – 30 July:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	345	11:38
Stellar Rolls	485	15:42
Ram Avoidance	0	0:00
Solar Alignment	4	1:34
Stellar Alignment	0	0:00
Field of View Maps	17	7:20
FSS Calibration	0	0:00
Station Contacts	14	3:15
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	8	4:36
ESR Mode with HRT	0	0:00
IR Scan	7	6:38
Quick Scan	13	5:15
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	17	7:20
Prism Calibration	0	0:00
Image Light	1	0:06
Image Dark	1	0:05
ESR Full Scan	0	0:00
Dark	24	0:18
Special Activity		
Power Cycle Checks	209	13:56

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	17	7:20
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	209	13:38

SOLSTICE A (MUV)

Solar Activity	Total	Total Time
Normal Scan	83	56:57
Quick Scan	71	13:49
Mini Quick Scan	63	12:21
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	0:52
Mini 64 Scan	9	6:41
MUV Solar Alignment	2	0:47
FUV Solar Alignment	2	0:47
MUV Stellar Alignment	0	0:00
FUV Stellar Alignment	0	0:00
MUV Field of View Map	17	7:20
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	95	65:58
Quick Scan	67	9:41
Mini Quick Scan	61	8:38
Stellar Activity		
Fixed Wavelength	576	22:22
Companion	87	5:04
Stellar Scan	13	1:24
Zero Order Scan	359	10:30
Number Unique Targets	45	39:51
Calibration Activity		
Fixed Wavelength	0	0:00
AB Comparison	1	0:52
Mini 64 Seam	11	6:48
MUV Solar Alignment	2	0:48
FUV Solar Alignment	2	0:47
MUV Stellar Alignment	0	0:00
FUV Stellar Alignment	0	0:00
MUV Field of View Map	17	7:20

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	97	75:05
Normal Eclipse	113	55:29
Calibration Activity		
Degradation A	1	0:52
Degradation C	1	0:52
Aliveness D	0	0:00
Gain Calibration AB	1	6:00
Gain Calibration CD	0	0:00
Solar Alignment	2	1:41
Field of View Map	17	7:20

Special Activity		
Power Cycle Checks	202	8:41

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, 31 July 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
 - Processing dark irradiances.
 - 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, 31 July 2009)

- Status
 - Modifications of software are being evaluated to fix wavelength shift problems in the new, unreleased version 10 data. If a resolution is not found soon, we will reprocess level 3 version 10 data by applying the new degradation corrections to the version 9 level 2 data.
 - 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
 - Debugging shift in wavelength correction.
 - 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.

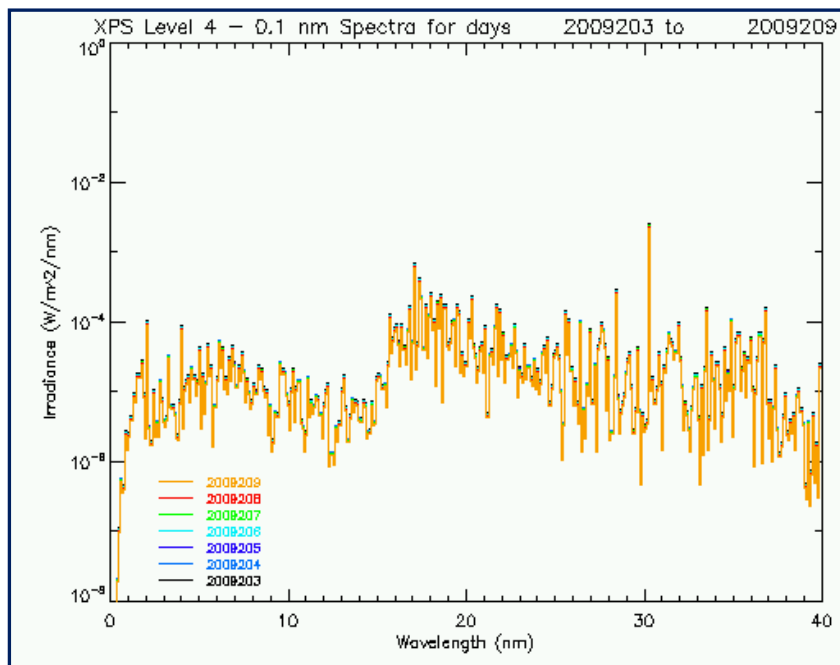
SIM (submitted by Doug Lindholm, 31 July 2009)

- 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.

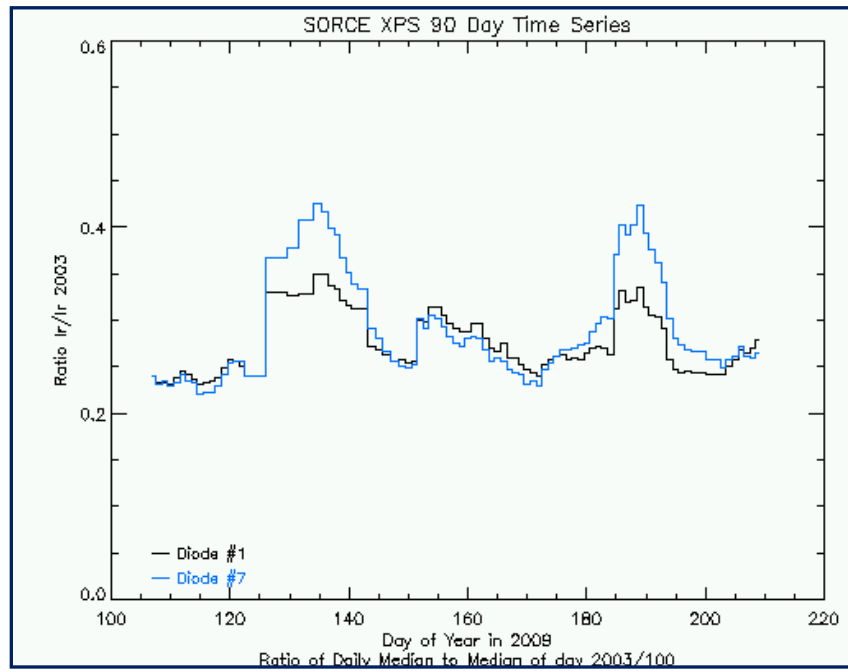
XPS (submitted by Brian Templeman, 31 July 2009)

- 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 2009/203 to 2009/209

Total level 1b Observations Processed:	26980
Percent used in level 2 Processing:	53.4618
Total level 3 Observations Processed:	14424



Weekly Image



Diode Time Series