SORCE Weekly Status Report – 5/14/2009 to 5/20/2009

1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, May 14, through Wednesday, May 20, 2009.

2. Spacecraft Summary (submitted by Deb McCabe, 20 May)

05/14	05/15	05/16	05/17	05/18	05/19	05/20
134	135	136	137	138	139	140

There was one MU Read 0 events reported during the past week:
2009/139-06:24:33

GCI lockups:

Instrument	Lockup Time	Response Time	(MINUTES) Duration	Lat	Lon
solstice_a	2009/135-17:09:38	2009/135-18:03:49	54.18	-34.3	-52.9
solstice_a	2009/136-13:59:16	2009/136-15:08:25	69.15	-38.4	-65.8
solstice_a	2009/138-14:36:40	2009/138-15:46:20	69.67	-39.4	-56.6
solstice_a	2009/139-16:32:46	2009/139-17:42:04	69.30	-36.4	-76.3
solstice_a	2009/140-15:16:32	2009/140-16:23:03	66.52	-28.1	-41.7
solstice_b	2009/134-11:37:30	2009/134-12:53:00	75.50	-15.1	-68.7
solstice_b	2009/135-04:02:17	2009/135-05:05:35	63.30	-38.9	96.1
solstice_b	2009/135-17:12:51	2009/135-18:03:45	50.90	-29.3	-41.3
solstice_b	2009/135-18:52:33	2009/135-19:41:00	48.45	-24.4	-57.3
solstice_b	2009/136-17:29:46	2009/136-18:22:53	53.12	-26.7	-46.9
solstice_b	2009/138-14:38:58	2009/138-15:46:15	67.28	-37.7	-46.4
solstice_b	2009/139-16:35:21	2009/139-17:41:59	66.63	-32.8	-65.9
solstice_b	2009/140-06:39:25	2009/140-08:16:55	97.50	-9.1	-39.5
sim_a	2009/134-13:31:03	2009/134-14:12:21	41.30	-39.8	-33.1
sim_a	2009/134-18:37:45	2009/134-19:04:04	26.32	-23.2	-45.0
sim_a	2009/135-04:54:40	2009/135-05:04:04	9.40	40.0	-79.3
sim_a	2009/135-17:19:38	2009/135-17:45:05	25.45	-15.4	-20.2
sim_a	2009/136-08:57:41	2009/136-09:56:55	59.23	-22.5	-30.2
sim_a	2009/137-17:50:51	2009/137-18:20:03	29.20	-14.6	-40.0
sim_a	2009/138-11:08:01	2009/138-12:08:33	60.53	-27.3	-67.9
sim_a	2009/138-19:42:48	2009/138-20:14:11	31.38	-15.6	-76.4
sim_a	2009/139-14:57:35	2009/139-15:39:37	42.03	-34.0	-44.2
sim_b	2009/135-08:39:30	2009/135-09:39:08	59.63	-16.5	-27.9
sim_b	2009/135-10:11:53	2009/135-11:16:20	64.45	-5.7	-65.3
sim_b	2009/135-17:18:25	2009/135-17:45:09	26.73	-18.4	-24.0
sim_b	2009/135-18:54:30	2009/135-19:22:21	27.85	-20.2	-51.2
sim_b	2009/136-12:18:38	2009/136-13:11:21	52.72	-34.6	-55.5
sim_b	2009/136-14:05:16	2009/136-14:48:31	43.25	-39.7	-38.7
sim_b	2009/137-09:13:18	2009/137-10:14:25	61.12	-23.0	-39.9
sim_b	2009/137-16:08:31	2009/137-16:43:00	34.48	-25.9	-31.1
sim_b	2009/138-07:54:27	2009/138-08:54:22	59.92	-28.4	-16.6
sim_b	2009/138-14:42:17	2009/138-15:22:53	40.60	-33.7	-32.9
sim_b	2009/138-16:21:04	2009/138-17:00:00	38.93	-31.1	-51.5
sim_b	2009/139-16:34:00	2009/139-17:16:49	42.82	-34.7	-71.0
sim_b	2009/139-21:53:28	2009/139-22:08:09	14.68	25.8	-61.5
tim	2009/134-15:08:42	2009/134-15:47:01	38.32	-40.0	-54.9
tim	2009/136-10:35:00	2009/136-11:31:31	56.52	-23.1	-54.0
tim	2009/136-17:27:00	2009/136-18:00:11	33.18	-31.5	-56.1
tim	2009/137-14:23:59	2009/137-15:03:11	39.20	-37.3	-34.2
tim	2009/137-17:42:16	2009/137-18:17:28	35.20	-31.7	-67.1
tim	2009/138-18:04:03	2009/138-18:34:29	30.43	-19.6	-56.9
tim	2009/140-10:09:10	2009/140-11:02:23	53.22	-37.9	-35.9
XPS	2009/134-10:01:32			-17.4	-41.1
XPS	2009/134-18:39:45			-19.0	-39.0
XPS	2009/135-10:14:46			-12.3	-57.8
XPS	2009/135-15:23:45			-39.9	-66.8

```
XPS         2009/135-15:32:12                                   -35.0    -30.1
XPS         2009/136-17:32:32                                   -21.0    -38.0
XPS         2009/136-19:08:42                                   -22.8    -65.3
XPS         2009/138-09:27:43                                   -20.7    -53.6
XPS         2009/139-08:03:25                                   -14.7    -47.2
XPS         2009/139-11:27:53                                   -34.6    -62.3
XPS         2009/139-14:56:41                                   -35.1    -47.5
XPS         2009/139-15:03:37                                   -23.5    -23.5
XPS         2009/139-16:39:00                                   -26.5    -53.0
XPS         2009/140-10:05:21                                   -33.3    -51.5
XPS         2009/140-15:14:35                                   -31.6    -48.7
```

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	9	13	5	8	7	15
Total	1978	2529	1360	1626	2192	2049

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	316814	316815	100
IM housekeeping	42723	42724	100
Science	309766	309770	100

4. Instrument Status

4.1. TIM (submitted by Greg Kopp, 20 May)

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 beta angle
  - Normal for this time of year

TIM anomalies during previous week
- After the Degradation A early on 13 May, Shutter A peak temperatures did not return to the full range they had through each orbit prior to this cavity inter-comparison
  - This ~1 degree C jump is not apparent in any of the other shutter temperatures
  - Minor curiosity – Will continue to watch with upcoming inter-comparisons

4.2. SIM (submitted by Jerry Harder, May 21)

For days 2009/134 (May 14) to 2009/141 (May 21):

Calibration Activities:	SIM A	SIM B
-- 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:

	SIM A	SIM B
-- ESR Full Scan Segments	0	0
-- ESR Table Scan Segments	7	0
-- 24-minute Scans	14	0
-- 24-minute Scans w/ HRT	1	0
-- IR scans	7	0

- Additonal Activities:
  Began discussions about a special field-of-view map to correct SIM data for the reaction wheel anomaly time period (October 2008).

4.3. SOLSTICE (submitted by Marty Snow, May 21)

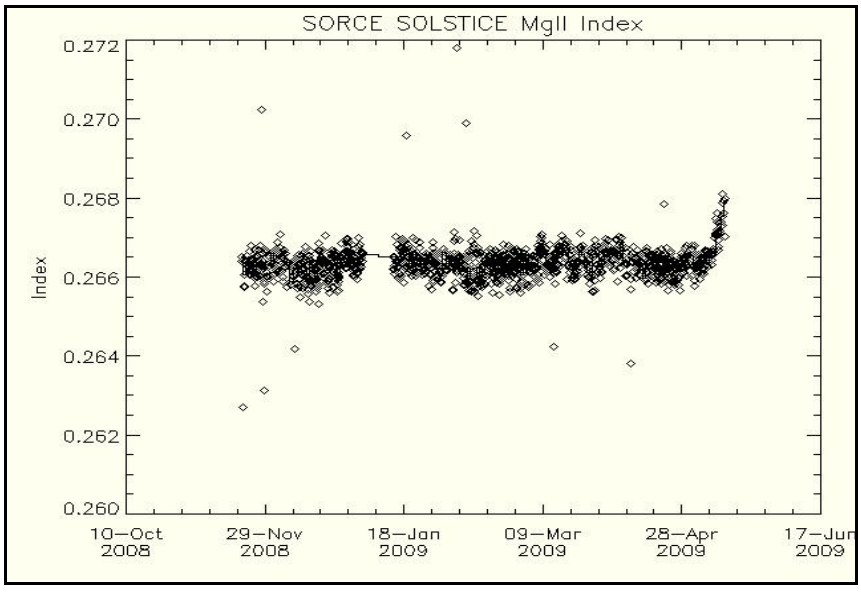
For days 2009/133 (May 13) to 2009/140 (May 20):

- SOLSTICE A grating drive errors: None

- SOLSTICE B grating drive errors:
  2009/138, 15:47:31

- Data Gaps for SOLSTICE A (date, length in minutes):
  2009/135, 18:04:43 55 minutes
  2009/136, 15:09:12 70 minutes
  2009/138, 15:47:13 71 minutes
  2009/139, 17:42:59 70 minutes

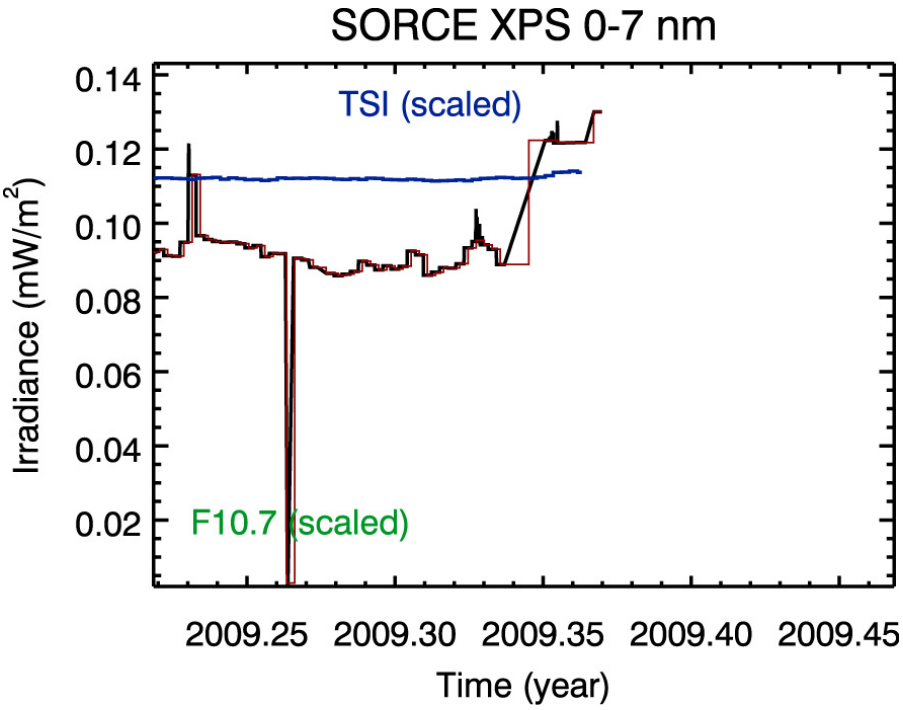
- Data Gaps for SOLSTICE B (date, length in minutes):
  2009/134, 12:53:47 76 minutes
  2009/135, 05:06:22 64 minutes
  2009/135, 18:04:47 52 minutes
  2009/135, 19:41:47 49 minutes
  2009/136, 18:23:41 54 minutes
  2009/138, 15:47:18 68 minutes
  2009/139, 17:43:03 68 minutes



4.4. XPS (submitted by Tom Woods, 20 May)

For days 2009/128 (8 May) to 2009/139 (19 May):

- Number of XPS GCI errors: 27
- 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, May 21)

Plans completed 14 May – 21 May:

SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	456	14:44
Stellar Rolls	333	10:56
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	14	2:29
GCI Checks	825	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

SIM A (Primary)

Solar Activity	Total	Total Time
ESR Mode	7	6:21
ESR Mode with HRT	0	0:00
IR Scan	7	8:06
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	206	13:44

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	206	13:26

SOLSTICE A (MUV)

Solar Activity	**Total**	**Total Time**
Normal Scan	93	85:12
Quick Scan	43	11:57
Mini Quick Scan	35	9:53
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	1:07
Fixed Wavelength	0	0:00
AB Comparison	1	1:08
Mini 64 Scan	7	8:05
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	93:25
Quick Scan	43	8:05
Mini Quick Scan	36	6:43
Stellar Activity		
Fixed Wavelength	236	10:08
Companion	69	4:01
Stellar Scan	22	3:19
Zero Order Scan	279	8:08
Number Unique Targets	43	25:33
Calibration Activity		
Fixed Wavelength	0	0:00
AB Comparison	1	1:08
Mini 64 Seam	7	8:05
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	120:07
Normal Eclipse	114	36:23
Calibration Activity		
Degradation A	1	1:08
Degradation C	1	1:08
Aliveness D	1	1:08
Gain Calibration AB	0	0:00
Gain Calibration CD	0	0:00
Solar Alignment	2	1:28
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, 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