

# SORCE Weekly Status Report – 6/11/2009 to 6/17/2009

## 1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, June 11, through Wednesday, June 17, 2009.

## 2. Spacecraft Summary (submitted by Deb McCabe, June 18)

06/11	06/12	06/13	06/14	06/15	06/16	06/17
162	1563	164	165	166	167	168

There was one MU read zero event this week:  
2009/168-05:42:19

GCI lockups:			(MINUTES)			
Instrument	Lockup Time	Response Time	Duration	Lat	Lon	
solstice_a	2009/162-23:48:41	2009/163-00:15:29	26.80	-31.6	-48.3	
solstice_a	2009/163-03:17:25	2009/163-03:29:47	12.37	-37.4	-34.5	
solstice_a	2009/164-00:02:14	2009/164-00:32:38	30.40	-28.3	-65.4	
solstice_a	2009/164-01:48:34	2009/164-02:09:46	21.20	-39.5	-52.8	
solstice_a	2009/164-22:39:53	2009/164-23:12:36	32.72	-26.9	-53.6	
solstice_a	2009/167-21:51:52	2009/167-22:26:35	34.72	-31.8	-50.3	
solstice_b	2009/162-04:44:04	2009/162-04:49:41	5.62	-30.5	-28.8	
solstice_b	2009/163-20:47:27	2009/163-21:18:16	30.82	-27.1	-18.1	
solstice_b	2009/164-00:00:23	2009/164-00:32:33	32.17	-24.8	-71.5	
solstice_b	2009/166-05:53:08	2009/166-05:58:09	5.02	-15.3	-46.8	
solstice_b	2009/167-21:48:36	2009/167-22:26:29	37.88	-25.9	-61.9	
sim_a	2009/162-04:38:31	2009/162-04:48:11	9.67	-37.8	-50.6	
sim_a	2009/162-06:28:40	2009/162-07:31:43	63.05	-15.0	-29.4	
sim_a	2009/162-08:06:12	2009/162-09:08:51	62.65	-13.9	-52.8	
sim_a	2009/163-01:32:31	2009/163-01:51:03	18.53	-39.2	-45.0	
sim_a	2009/163-06:35:46	2009/163-06:42:29	6.72	-31.8	-66.8	
sim_a	2009/163-22:21:01	2009/163-22:23:03	2.03	-20.0	-53.9	
sim_a	2009/164-05:18:32	2009/164-05:22:28	3.93	-23.6	-37.3	
sim_a	2009/167-00:59:24	2009/167-01:22:16	22.87	-39.9	-52.0	
sim_b	2009/162-04:39:16	2009/162-04:48:16	9.00	-37.2	-47.7	
sim_b	2009/162-06:20:34	2009/162-06:25:25	4.85	-31.4	-55.4	
sim_b	2009/162-23:48:28	2009/163-00:13:59	25.52	-31.3	-48.9	
sim_b	2009/163-06:38:33	2009/163-06:42:34	4.02	-26.8	-56.8	
sim_b	2009/164-00:06:51	2009/164-00:31:09	24.30	-35.5	-48.1	
sim_b	2009/164-22:45:50	2009/164-23:11:06	25.27	-36.3	-31.3	
sim_b	2009/165-19:35:12	2009/165-19:42:54	7.70	-14.3	-32.7	
sim_b	2009/166-05:51:23	2009/166-05:56:44	5.35	-19.4	-52.1	
tim	2009/164-05:13:17	2009/164-05:23:53	10.60	-32.9	-55.2	
tim	2009/165-05:33:49	2009/165-05:41:00	7.18	-23.8	-48.0	
tim	2009/165-07:12:57	2009/165-07:18:09	5.20	-19.3	-66.2	
tim	2009/165-19:40:41	2009/165-20:15:15	34.57	-26.0	-16.3	
tim	2009/166-04:08:40	2009/166-04:20:56	12.27	-30.5	-45.7	
tim	2009/167-02:47:06	2009/167-03:00:49	13.72	-30.6	-31.7	
tim	2009/167-04:28:06	2009/167-04:37:57	9.85	-23.0	-43.1	
tim	2009/167-21:52:28	2009/167-22:26:25	33.95	-32.9	-47.9	
tim	2009/168-18:45:21	2009/168-18:53:48	8.45	-16.5	-36.6	
tim	2009/168-22:06:09	2009/168-22:43:21	37.20	-30.1	-64.6	
XPS	2009/161-21:46:55			-12.6	-42.5	
XPS	2009/162-06:18:47			-34.0	-61.7	
XPS	2009/162-06:19:44			-32.7	-58.5	
XPS	2009/163-06:44:02			-15.2	-40.1	
XPS	2009/164-01:59:02			-33.3	-6.9	
XPS	2009/165-03:56:59			-23.4	-22.7	
XPS	2009/165-22:54:31			-25.5	-66.4	
XPS	2009/168-03:03:42			-28.4	-37.7	

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	8	8	6	5	10	8
Total	2005	2564	1387	1646	2224	2076

**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	332189	332191	100
IM housekeeping	45264	45265	100
Science	330750	330752	100

**4. Instrument Status**

**4.1. TIM**

**4.2. SIM** (submitted by Jerry Harder, June 18)

For days 2009/162 (June 11) to 2009/169 (June 18):

- 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	3	3
-- 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	9	9
  
- Science Activities:

	<u>SIM A</u>	<u>SIM B</u>
-- ESR Full Scan Segments	0	0
-- ESR Table Scan Segments	6	0
-- 24-minute Scans	14	0
-- 24-minute Scans w/ HRT	0	0
-- IR scans	6	0

**4.3. SOLSTICE** (submitted by Marty Snow, June 17)

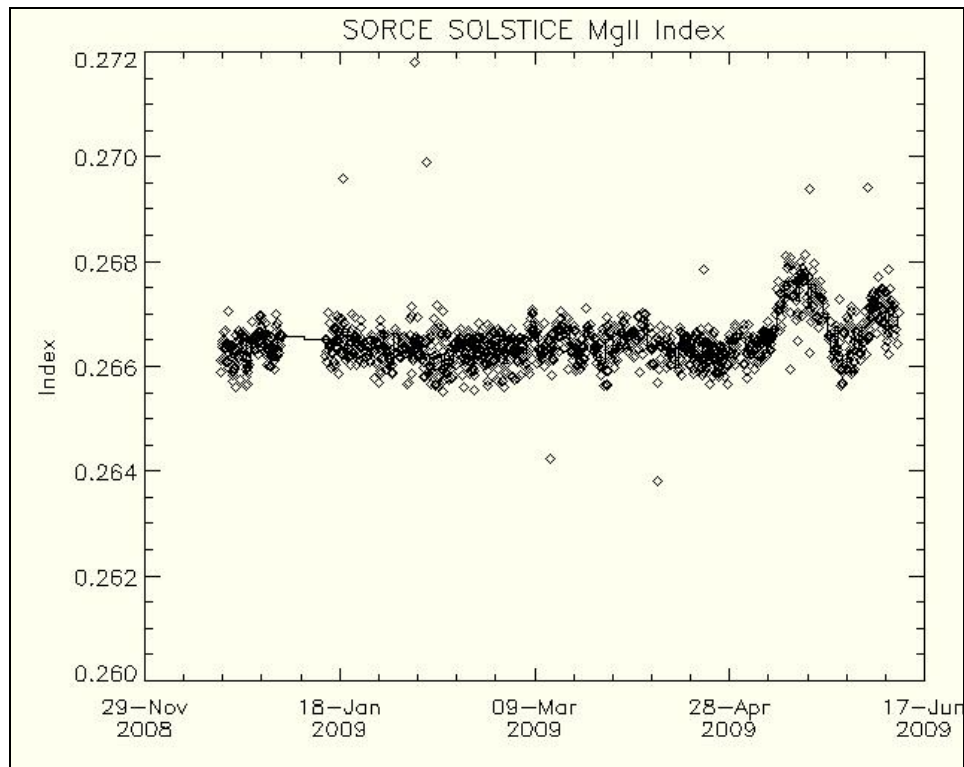
For days 2009/161 (June 10) to 2009/168 (June 17):

- SOLSTICE A grating drive errors: None
- SOLSTICE B grating drive errors:  
2009/162, 04:50:41

- Data Gaps for SOLSTICE A (date, length in minutes):
 

2009/161, 07:47:42	3 minutes
2009/163, 00:16:16	28 minutes
2009/163, 03:30:34	13 minutes
2009/164, 00:33:30	31 minutes
2009/164, 02:10:33	22 minutes
2009/164, 23:13:23	34 minutes
2009/167, 22:27:38	36 minutes
- Data Gaps for SOLSTICE B (date, length in minutes):
 

2009/161, 22:21:54	31 minutes
2009/162, 04:50:29	6 minutes
2009/163, 21:19:03	32 minutes
2009/164, 00:33:35	33 minutes
2009/166, 05:58:56	6 minutes
2009/167, 22:27:40	39 minutes

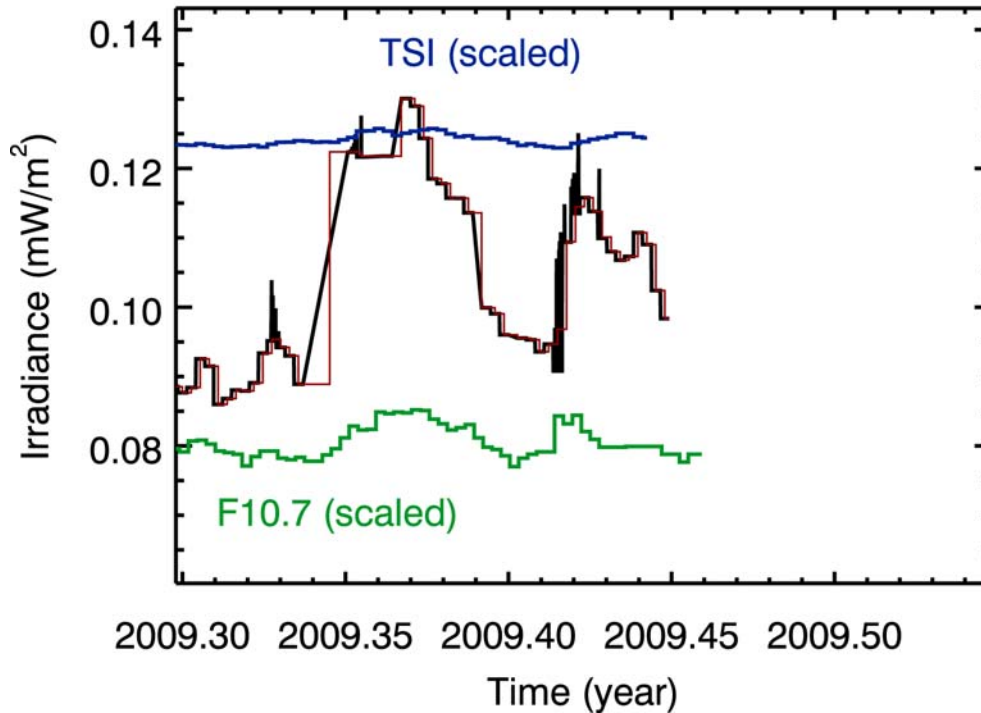


**4.4. XPS** (submitted by Tom Woods, 18 June)

For days 2009/157 (June 6) to 2009/168 (June 17):

- Number of XPS GCI errors: 17
- SORCE XPS Data Gaps: None
- SORCE XPS Calibration Experiment Duration: None
- Flares: None above class M1.0

## SORCE XPS 0-7 nm



### 5. Planning (automated report submitted by Jay Kominek, June 18)

***Plans completed 11 June – 18 June:***

#### SORCE Spacecraft

Activity	Total	Total Time
Solar Rolls	304	12:23
Stellar Rolls	505	15:03
Ram Avoidance	0	0:00
Solar Alignment	4	1:33
Stellar Alignment	0	0:00
Field of View Maps	13	6:58
FSS Calibration	0	0:00
Station Contacts	15	3:25
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	6	4:03
ESR Mode with HRT	0	0:00
IR Scan	5	5:01
Quick Scan	14	5:39
Quick Scan HRT	0	0:00
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00
Field of View Map	13	6:58
Prism Calibration	0	0:00
Image Light	1	0:06

Image Dark	1	0:05
ESR Full Scan	0	0:00
Dark	27	0:20
<b>Special Activity</b>		
Power Cycle Checks	207	13:48

### **SIM B (Secondary)**

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
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
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00
Field of View Map	13	6:58
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
<b>Special Activity</b>		
Power Cycle Checks	207	13:30

### **SOLSTICE A (MUV)**

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Scan	84	63:53
Quick Scan	53	12:48
Mini Quick Scan	42	10:42
<b>Stellar Activity</b>		
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
<b>Calibration Activity</b>		
Filter Calibration	1	1:00
Fixed Wavelength	0	0:00
AB Comparison	1	0:58
Mini 64 Scan	7	6:27
MUV Solar Alignment	2	0:46
FUV Solar Alignment	2	0:46
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	13	6:58
<b>Special Activity</b>		
Power Cycle Checks	103	4:26
Step Response Test	1	0:02

### **SOLSTICE B (FUV)**

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Scan	95	73:02
Quick Scan	47	8:18
Mini Quick Scan	39	7:04
<b>Stellar Activity</b>		
Fixed Wavelength	662	22:54

Companion	57	3:19
Stellar Scan	21	2:42
Zero Order Scan	307	9:00
Number Unique Targets	43	39:49
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
AB Comparison	1	0:58
Mini 64 Seam	8	6:31
MUV Solar Alignment	2	0:46
FUV Solar Alignment	2	0:46
MUV Stellar Alignment	4	0:36
FUV Stellar Alignment	5	0:45
MUV Field of View Map	0	0:00
FUV Field of View Map	13	6:58
<b>Special Activity</b>		
Power Cycle Checks	103	4:34
Step Response Test	1	0:02

### **TIM**

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Solar	101	83:30
Normal Eclipse	108	56:45
<b>Calibration Activity</b>		
Degradation A	1	0:51
Degradation C	1	0:51
Aliveness D	1	0:51
Gain Calibration AB	0	0:00
Gain Calibration CD	0	0:00
Solar Alignment	2	1:40
Field of View Map	13	6:58
<b>Special Activity</b>		
Power Cycle Checks	207	8:54

### **XPS**

<b>Calibration Activity</b>		
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, 4 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, 4 June 2009)

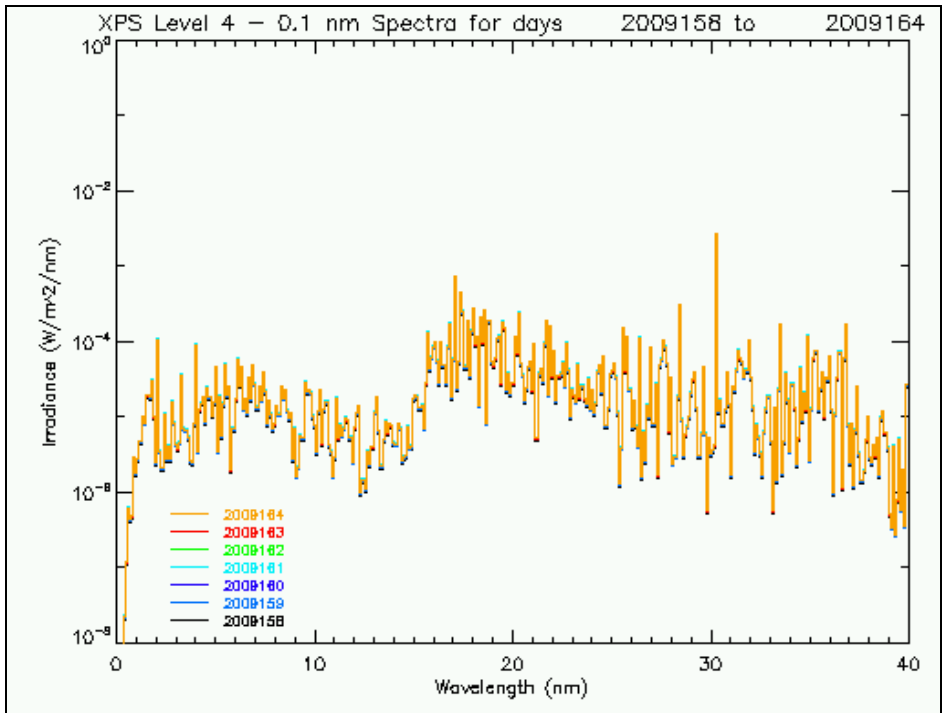
- Status
  - Modifications of software are being made to fix problems in the version 10 data. Reprocessing will begin soon.
  - Routine data processing is producing version 9 level 3 FUV and MUV SOLSTICE data products. These are available on the SORCE web site and LISIRD.
  - MgII index is being produced 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, 4 June 2009)

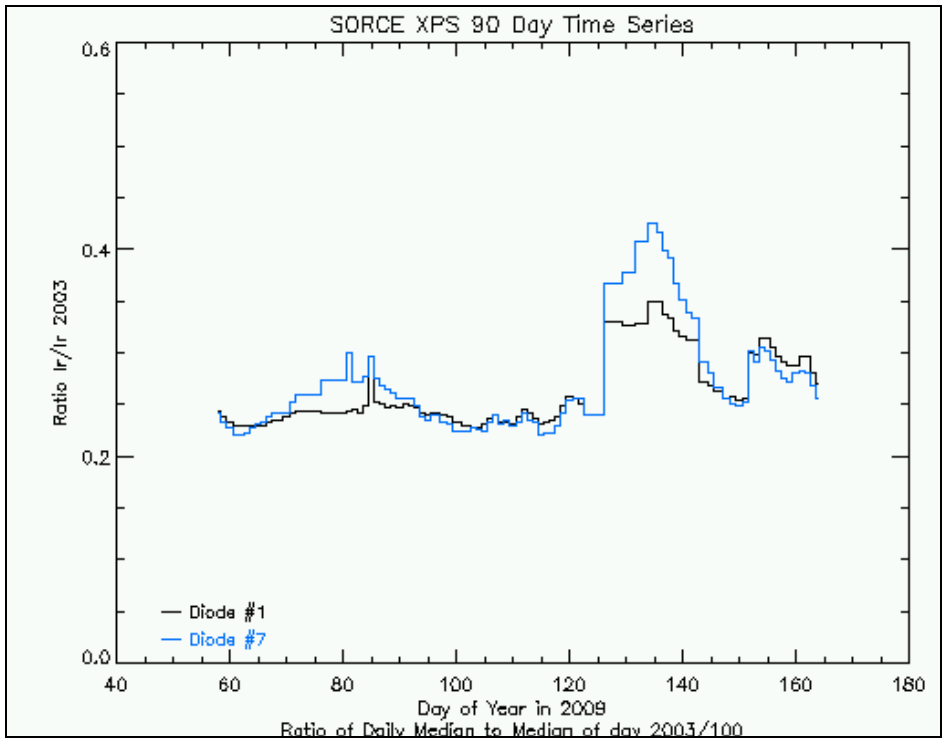
- Status
  - The routine processing of version 17 data is ongoing.
  - The level 3 data products are available on the SORCE web site and LISIRD.
- Work in Progress
  - Calibration to improve the quality of early mission data.
  - Testing of new SIM exposure time algorithm.
- Future Plans
  - Process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

**XPS** (submitted by Brian Templeman, 5 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 2009/142 to 2009/150
  - Total level 1b Observations Processed: 27028
  - Percent used in level 2 Processing: 54.9208
  - Total level 3 Observations Processed: 14844



Weekly Image – June 18, 2009



Diode Time Series – June 18, 2009