

## SORCE Weekly Status Report – 6/4/2009 to 6/10/2009

### 1. Introduction

This status report addresses the performance of the SORCE spacecraft, instruments, and ground assets during the week of Thursday, June 4, through Wednesday, June 10, 2009.

### 2. Spacecraft Summary (submitted by Deb McCabe, June 11)

06/04	06/05	06/06	06/07	06/08	06/09	06/10
155	156	157	158	159	160	161

There was one MU read zero event this week: 2009/157-22:15:16

GCI lockups:			(MINUTES)		
Instrument	Lockup Time	Response Time	Duration	Lat	Lon
solstice_a	2009/155-09:29:27	2009/155-10:56:12	86.75	-20.2	-37.2
solstice_a	2009/155-23:24:00	2009/155-23:53:13	29.22	-2.2	-41.1
solstice_a	2009/158-00:01:49	2009/158-00:27:08	25.32	-18.4	-43.0
solstice_a	2009/158-03:24:56	2009/158-03:41:25	16.48	-34.8	-62.0
solstice_a	2009/159-02:03:20	2009/159-02:21:18	17.97	-34.9	-47.3
solstice_a	2009/159-10:35:23	2009/159-12:04:09	88.77	-10.8	-67.1
solstice_a	2009/161-07:44:24	2009/161-07:46:55	2.52	-27.5	-61.9
solstice_b	2009/157-03:11:04	2009/157-03:24:21	13.28	-36.7	-45.1
solstice_b	2009/158-00:01:07	2009/158-00:27:03	25.93	-16.9	-44.9
sim_a	2009/155-00:50:34	2009/155-01:11:51	21.28	-13.6	-42.4
sim_a	2009/156-02:58:41	2009/156-03:05:53	7.20	-39.3	-21.2
sim_a	2009/159-05:33:35	2009/159-06:40:17	66.70	-32.6	-26.9
sim_a	2009/160-02:14:06	2009/160-02:36:48	22.70	-27.2	-75.1
sim_a	2009/160-07:25:02	2009/160-07:28:13	3.18	-34.0	-65.6
sim_a	2009/161-02:35:14	2009/161-02:53:55	18.68	-36.2	-64.1
sim_a	2009/161-09:26:49	2009/161-10:28:52	62.05	-16.1	-69.7
sim_b	2009/155-06:04:33	2009/155-07:09:15	64.70	-38.0	-27.5
sim_b	2009/155-09:24:01	2009/155-10:23:30	59.48	-30.8	-55.2
sim_b	2009/156-01:08:24	2009/156-01:28:50	20.43	-19.0	-45.9
sim_b	2009/156-09:42:19	2009/156-10:40:31	58.20	-25.5	-55.7
sim_b	2009/156-23:42:24	2009/157-00:08:39	26.25	-9.1	-43.9
sim_b	2009/158-01:45:15	2009/158-02:02:47	17.53	-30.8	-47.3
sim_b	2009/159-07:12:40	2009/159-07:12:43	0.05	-29.0	-43.8
sim_b	2009/160-00:34:25	2009/160-00:59:45	25.33	-22.0	-58.8
sim_b	2009/161-00:52:24	2009/161-01:16:51	24.45	-27.1	-61.0
tim	2009/155-04:15:56	2009/155-04:27:31	11.58	-35.1	-54.5
tim	2009/156-11:23:29	2009/156-12:14:59	51.50	-16.8	-67.8
tim	2009/156-22:04:43	2009/156-22:32:51	28.13	-7.6	-20.9
tim	2009/157-04:49:04	2009/157-05:01:23	12.32	-37.7	-65.7
tim	2009/157-23:58:37	2009/158-00:26:58	28.35	-11.2	-51.8
tim	2009/159-01:58:58	2009/159-02:21:08	22.17	-28.0	-63.3
tim	2009/159-08:51:20	2009/159-09:51:59	60.65	-25.9	-63.0
tim	2009/159-22:54:25	2009/159-23:23:56	29.52	-15.5	-42.8
XPS	2009/155-09:33:20			-11.6	-26.4
XPS	2009/156-02:44:26			-16.8	-73.6
XPS	2009/157-05:00:49			-35.2	-13.1
XPS	2009/157-08:20:57			-25.3	-41.1
XPS	2009/158-06:56:24			-30.6	-36.7
XPS	2009/158-22:35:26			-7.2	-42.1
XPS	2009/159-07:13:14			-28.1	-42.1
XPS	2009/160-00:37:36			-28.2	-48.6
XPS	2009/160-04:16:20			-24.6	2.8
XPS	2009/160-09:09:35			-20.3	-64.8
XPS	2009/161-04:22:35			-38.3	-42.7

	SIM A	SIM B	SOL A	SOL B	TIM	XPS*
Week	7	9	7	2	8	11
Total	1997	2556	1381	1640	2214	2068

**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	318540	318541	100
IM housekeeping	43206	43207	100
Science	315623	315625	100

**4. Instrument Status**

**4.1. TIM** (submitted by Greg Kopp, June 11)

TIM operations during previous week

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

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, June 11)

For days 2009/155 (June 4) to 2009/162 (June 11):

• 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	14	14
• 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	6	0

### 4.3. SOLSTICE

### 4.4. XPS

## 5. Planning (automated report submitted by Jay Kominek, June 11)

*Plans completed 04 June – 11 June:*

### SORCE Spacecraft

<b>Activity</b>	<b>Total</b>	<b>Total Time</b>
Solar Rolls	311	12:18
Stellar Rolls	535	15:42
Ram Avoidance	0	0:00
Solar Alignment	4	1:41
Stellar Alignment	0	0:00
Field of View Maps	12	6:39
FSS Calibration	0	0:00
Station Contacts	14	3:12
GCI Checks	832	0:13
State Vector Upload	7	0:21
MU Checksum	1	0:12

### SIM A (Primary)

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
ESR Mode	7	4:46
ESR Mode with HRT	0	0:00
IR Scan	7	7:02
Quick Scan	14	5:39
Quick Scan HRT	1	0:24
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00
Field of View Map	12	6:39
Prism Calibration	0	0:00
Image Light	1	0:06
Image Dark	1	0:05
ESR Full Scan	0	0:00
Dark	29	0:21
<b>Special Activity</b>		
Power Cycle Checks	208	13:52

### 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	1	0:24
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
Servo Gain Calibration	2	1:20
Solar Alignment	0	0:00

Field of View Map	12	6:39
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
<b>Special Activity</b>		
Power Cycle Checks	208	13:34

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

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Scan	80	62:52
Quick Scan	49	12:31
Mini Quick Scan	43	10:59
<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	0:52
Mini 64 Scan	7	7:02
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	12	6:39
<b>Special Activity</b>		
Power Cycle Checks	104	4:28
Step Response Test	1	0:02

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

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Scan	93	72:15
Quick Scan	44	8:11
Mini Quick Scan	37	6:56
<b>Stellar Activity</b>		
Fixed Wavelength	654	23:02
Companion	15	0:52
Stellar Scan	61	8:07
Zero Order Scan	226	6:37
Number Unique Targets	41	40:13
<b>Calibration Activity</b>		
Fixed Wavelength	0	0:00
AB Comparison	1	0:52
Mini 64 Seam	7	7:02
MUV Solar Alignment	0	0:00
FUV Solar Alignment	0	0:00
MUV Stellar Alignment	2	0:18
FUV Stellar Alignment	4	0:36
MUV Field of View Map	0	0:00
FUV Field of View Map	12	6:39
<b>Special Activity</b>		
Power Cycle Checks	104	4:37
Step Response Test	1	0:02

## **TIM**

<b>Solar Activity</b>	<b>Total</b>	<b>Total Time</b>
Normal Solar	104	87:20
Normal Eclipse	106	58:31
<b>Calibration Activity</b>		
Degradation A	1	0:26
Degradation C	0	0:00
Aliveness D	0	0:00
Gain Calibration AB	0	0:00
Gain Calibration CD	0	0:00
Solar Alignment	2	1:47
Field of View Map	12	6:39
<b>Special Activity</b>		
Power Cycle Checks	208	8:57

## **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