

SDO HMI Internal Weekly On-Orbit Report

Week of Monday, April 4, 2011 through Sunday, April 10, 2011

Summary

HMI successfully performed their weekly calibrations on Monday, April 4th (flatfield observation mode-1) and on Tuesday, April 5th (flatfield calibration/observation mode-2, reduced focus sweep) using timed scripts. On Tuesday, April 5th, the spacecraft adjusted its battery down to its pre-eclipse season charge of 60%; HMI adjusted its heaters in order to keep temperatures constant. HMI performed nominally throughout the HMI Roll Maneuver on Wednesday, April 6th. Results have not yet been analyzed. HMI saw one corrupt image this week for an on-orbit total of 33. LMSAL SDO personnel assisted in planning a coordinated observing program with the JAXA Hinode mission during the week of April 4. HMI is performing nominally.

Weekly Calibrations

Calibration	Date/Time	Script	Ran by	Notes
Flat field (observation mode-1)	04-Apr-11 19:00 UT	2701	Timed Script	Calibrations performed one day early to avoid interfering with a Hinode observing program.
Flat field (observation mode-1)	05-Apr-11 19:00 UT	2701	Timed Script	
Flat field (calibration mode)	05-Apr-11 19:08 UT	2702	Timed Script	
Reduced focus sweep	05-Apr-11 19:16 UT	2704	Timed Script	

Loads

None

Thermal Adjustments

1. Heater Zone Duty Cycle Adjustments

04-Apr-2011 at 16:40:50 UTC

Author: Emma Lehman

Adjusted Heater settings back to pre-eclipse season (and battery voltage change) values:

Zone	Deadband DC	DC Duration
1	22	37
2	4	26
3	19	26
4	10	25
5	47	15

Zone	Deadband DC	DC Duration
6	4	25
7	81	16

S/C Calibrations/Maneuvers

1. HMI Roll Maneuver

06-Apr-2011 at 05:54:00 UT

The HMI Roll Maneuver was performed successfully between 05:54 and 12:34 UT.

Additional Operations

None

Instrument Anomalies

None

Limit violations

None

Clock Adjustments

Date/Time (UT)	HMI WRT ground (ms)	Adjustment
04/04/11 @ 16:36	-48	HMI from 0x800273 to 0x800276
04/05/11 @ 18:05	-20	HMI from 0x800276 to 0x800275
04/06/11 @ 19:34	+5	HMI from 0x800275 to 0x800274
04/07/11 @ 18:01	+20	HMI from 0x800274 to 0x800272
04/08/11 @ 17:18	-8.5	HMI from 0x800272 to 0x800271

Long term Trends

1. Corrupt Image FSN 469769216 (0x1C001C000)

Occurrences this week:

1. 2011-04-04 @ 10:38:25

Occurrences to date: 31

2. Corrupt Image FSN 9175180 (0x008C008C)

Occurrences this week: None

Occurrences to date: 2

Other

1. Spacecraft Battery Voltage Adjustment

04-Apr-2011 at 15:16:00 UTC

The spacecraft's battery voltage was lowered back down from its eclipse season setting at 90% (33.1 volts) to its nominal setting at 60% (31.5 volts). HMI adjusted its heater zones to keep temperatures constant (see thermal adjustments for exact settings).

2. HMISDP-MON Disk Failure

04-Apr-2011 at 21:16:19 UTC

The disk on the beta health and monitoring workstation (hmisd-p-mon) failed. The backup system was offline for the remainder of the week, and will continue be offline until the disk is replaced (probably 4/12/11).

3. EGSE Limits Changed from Eclipse Limits to Nom Ops Limits

04-Apr-2011 at 22:38:12 UTC

The EGSE limits were changed from the eclipse limits to the nominal flight operations limits on the AIA MON and CMD machines. The only difference for HMI here is the yellow limit on TS05, which we had raised on the MON machine only so we wouldn't get phone alerts if it was tripped. The limit was not tripped anyways, so next eclipse season we shouldn't have to take this precaution unless we raise the temperatures more. The limits have also been reset on the MOC machines, but not on the SDP machines due to disk complications.