

SDO HMI Internal Weekly On-Orbit Report

Week of Monday, March 7, 2011 through Sunday, March 13, 2011

Summary

HMI successfully performed their weekly calibrations on Tuesday, March 8th (flatfield observation mode-1) and on Wednesday, March 9th (flatfield calibration/observation mode-2, reduced focus sweep) using timed scripts. On March 9th the spacecraft battery voltage was increased from 31.5 V to 33.1 V for eclipse season. HMI's heater zone deadband duty cycles and durations were adjusted accordingly to keep temperatures constant.

Eclipse season began on Thursday, March 11 at 07:00 UT. Several scripts were loaded in preparation for eclipse operations. HMI is increasing its front heaters during eclipses, and taking focus sweeps for 60 minutes post-eclipse. HMI continues to perform nominally.

Calibrations

Calibration	Date/Time	Script	Ran by	Notes
Flat field (observation mode-1)	8-Mar-11 19:16 UT	2701	Timed Script	
Flat field (observation mode-1)	9-Mar-11 19:16 UT	2701	Timed Script	
Flat field (calibration mode)	9-Mar-11 19:24 UT	2702	Timed Script	
Reduced Focus Sweep	9-Mar-11 19:32 UT	2704	Timed Script	

Loads

1. Eclipse scripts

09-Mar-2011 at 22:36:21 UTC

Author: Emma Lehman

Loaded H_ECLIPSE (scripts 3064, 3164, 3264, 3065, 3165, 3265, 3365)

Hooked up Eclipse Entrance INC to script 3264

Hooked up Eclipse Exit INC to script 3265

Thermal Adjustments

1. Duty Cycle and Duration Adjustments

09-Mar-2011

The FOT increased the spacecraft battery voltage from 31.5 V to 33.1 V for eclipse season. The HMI heater zone deadband duty cycles and durations were adjusted accordingly. New settings are as follows:

Zone	Target	DC	Dur	Actual
1	19.58	20	46	19.57
2	3.49	3	29	3.45
3	17.42	17	23	17.39
4	10.87	11	55	10.91
5	42.27	42	26	42.31
6	3.62	4	28	3.57
7	73.58	74	53	73.58

S/C Calibrations/Maneuvers

None

Additional Operations

1. Extra focus sweep

One extra focus sweep was taken after the heater duty cycle and duration adjustments were made following the spacecraft batter voltage adjustment.

10-Mar-2011 at 20:24:42 UTC

Author: Zoe

Ran one additional focus sweep (full focus sweep, 2705) at 20:11:50, FSN ~19057800, plus a clock adjust by 1. More clock adjustments may be needed later today or tomorrow to hold for the weekend.

2. Eclipses

Eclipse season began on Thursday, March 11 at 07:00 UT. See below for summaries of HMI eclipse operations. Full details can be found at https://hmi.lmsal.com/doc?cmd=vcur&proj_num=HMI02960.

UT Date	Temp raise [zone1, zone2, zone3]	Focus Sweeps
3/11/2011	[4,4,3]	full & reduced
3/12/2011	[7,7,5]	full & reduced
3/13/2011	[8,8,6]	full & reduced
3/14/2011	[8,8,6]	None

Instrument Anomalies

None

Limit violations

None

Clock Adjustments

None

Date/Time (UT)	HMI WRT ground (ms)	Adjustment
03/10/11 @ 20:34	-9 ms	HMI from 0x800273 to 0x800275

Long term Trends**1. Corrupt Image FSN 469769216 (0x1C001C000)**

Occurrences this week: None

Occurrences to date: 27

3. Corrupt Image FSN 9175180 (0x008C008C)

Occurrences this week: None

Occurrences to date: 2

Other**1. Script System Configuration**

11-Mar-2011 at 21:48:24 UTC

The HMI script system was configured to echo all script commands to info messages, as AIA does. This change brought to light the fact that heater commands are not being echoed by the script system. Theories as to why this is happening are currently being tested.