SDO HMI Internal Weekly On-Orbit Report

Week of Monday, November 8, 2010 through Sunday, November 14, 2010

Summary

HMI successfully performed their weekly calibrations on Tuesday, November 9th (flatfields, focus sweep), including a leg alignment this week. A detune was performed on Thursday. There were several nominal clock adjustments and no thermal adjustments made this week. There were 2 corrupt images seen on Tuesday and Sunday – making a mission total of 16. HMI continues to perform nominally.

An inertial/science mode test was performed on Wednesday this week and was monitored from the JSOC-IOC. The new approach (with the updated SNR offset quaternion) yielded much lower pointing offsets, and was decidedly better for both instruments. This configuration will be used during the next lunar transit on December 6th.

Calibrations

Calibration	Date/Time	Ran by	Notes
Leg Alignment	9-November-2010 19:07 UT	Emma & Zoe	AL1 = 62, AL2 = 47 FSN 13482195
Flat field (observation mode)	9-November-2010 19:16 UT	Emma & Zoe	FSN 13482277
Flat field (calibration mode)	9-November-2010 19:20 UT	Emma & Zoe	FSN 13482370
Focus Sweep (reduced)	9-November-2010 19:25 UT	Emma & Zoe	FSN 13482515
Flat field (observation mode - 2)	9-November-2010 19:29 UT	Emma & Zoe	FSN 13482660
Detune	11-November-2010 18:26 UT	Emma	FSN 13572800

Additional Operations
None

Instrument Anomalies
None

Limit violations
None

Clock Information

Date/Time (UT)	HMI WRT S/C (ms)	S/C WRT ground (ms)	HMI WRT ground	Adjustment
11/8/10 @ 17:59	-1.25	-13.2	-14.45	HMI from 0x800273 to 0x800274
11/8/10 @18:28	-16.4	0.0	-16.4	S/C to 0
11/10/10 @15:45	-17.7	0.0	-17.7	S/C to 0
11/10/10 @ 19:05	-19.1	+2.1	-17.0	HMI from 0x800274 to 0x800275
11/12/10 @ 21:05	-3.0	+1.9	-1.1	HMI from 0x800275 to 0x800273

Thermal Adjustments
None

Sequencer Changes
None

Date/Time of Change	New Sequence	Notes

S/C Calibrations/Maneuvers

1. Inertial Mode Test: November 10, 2010, 18:00 UT to 18:30 UT

The inertial/science mode tests were performed as planned and were monitored from the JSOC. The new approach (with the updated SNR offset quaternion) yielded much lower pointing offsets, and was decidedly better for both instruments. Sarah will ask the FOT to use this mode in the future.

Pointing Adjustments
None

Long term Trends

   1. Corrupt Image FSN 469769216 (0x1C001C000)
   Occurrences this week:
   1. 2010-11-09 @ 05:09:31
   2. 2010-11-14 @ 11:09:35
   Occurrences to date: 16

2. Corrupt Image FSN 9175180 (0x008C008C)
Occurrences this week:
1. No new occurrences
Occurrences to date: 3

Loads
None

Other

1. **Security Scan Failures– 11/8/10 to 11/11/10**
A security scan was performed on the MOC machines at 8:20 am PT on Monday, November 8. The port scans caused "Gnome segmentation fault" error messages on all of the machines. Patches were installed by Brandy on all of the test machines at the MOC and JSOC, but did not prevent the error when the MOC machines were scanned again on Tuesday.

   Four of the crashes generated crash dumps, which will be sent to Oracle/Sun to analyze. A new Service Request was opened, (SR# 73839502) at priority level 2 (a major, but not critical, problem).

2. **Workstation Reboot – 11/9/10**
The HMIioc-mon and HMIioc-cmd workstations were successfully rebooted on Tuesday, November 9 by Sarah M. and Emma. All of the nominal settings were restored on the EGSEs and in the workstation windows. The stations will be rebooted again in 90 days (around 1/31/11)

3. **Excess PZT Noise – 11/9/10**
09-Nov-2010 at 19:58:15 UTC
Author: Emma & Zoe

   We noticed excess noise in the PZT voltage plots at about 07:00, 13:00, and 17:00 today. It also shows up in the AIA GT Y&Z vectors. More RW-induced jitter?