SDO HMI Internal Weekly On-Orbit Report

Week of Monday, December 13, 2010 through Sunday, December 19, 2010

Summary

HMI successfully performed their weekly calibrations on Tuesday, December 14th (flatfield observation mode-1) and Wednesday, December 15th (flatfield calibration/observation mode-2, focus sweep). A detune was performed on Thursday, December 16th. There were two nominal clock adjustments made this week and on Friday, all 7 heater zone limits and duty cycles were adjusted. Following last week's successful retune testing, the new default frame lists and wavelengths tables were activated on Monday. HMI continues to perform nominally.

On Wednesday, December 15th, telemetry went stale on the JSOC-SDP workstations around 22:26 UT due to an outage in the OC3 line carrying science (and housekeeping) data from White Sands to Stanford. The HMI and AIA SDP workstations were reconnected for telemetry at 06:50 UT late Wednesday evening.

On Saturday, December 18th, SUMS Disk Controllers Problems, at the JSOC-SDP one of the disk controllers in the primary SUMS file system failed around 11:30 pm PT. This caused the Watch Lev 0 site to go down. A temporary hourly cron job was created to provide access to current images. The problem persisted as of 15:30 PT on Monday, December 20th, but a fix is expected in the next few days.

Calibrations

Calibration	Date/Time	Ran by	Notes
Flat field (observation mode-1)	14-Dec-10 22:04:42	Emma, Brett, & Zoe	FSN 15100426
Flat field (calibration mode)	15-Dec-10 19:20:26	Zoe & Emma	FSN 15141250
Focus Sweep (reduced)	15-Dec-10 19:33:55	Zoe & Emma	FSN 15141681
Flat field (observation mode - 2)	15-Dec-10 19:42:54	Zoe & Emma	FSN 15141969
Detune	16-Dec-10 18:44:25	Emma	FSN 15186176

Additional Operations

1. **Retune Activities**
   Following last week's successful retune testing, the new default frame lists and wavelengths were activated.
   > 13-Dec-2010 at 20:02:39 UTC
   > Author: Emma, Brett, and Zoe

1. Set the wavelength_set_index to 11
2. Set the default FTS ID (priority 7) to 1021
Time: 19:47
FSN: 15049955
3. Set the cal FTS ID (priority 5) to 2021
4. Set the default wavelength ID to 600

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14-Dec-2010 at 22:22:43 UTC
Author: Emma, Brett, & Zoe

1. Set default wavelength index to 0xff00. Note that this will show up on the current sequencer screen as '65280'. (It will be updated on the new sequencer screen.)

Instrument Anomalies
None

Limit violations
None

Clock Information

Date/Time (UT)	HMI WRT ground (ms)	Adjustment
12/16/10 @ 18:17	+5.5	HMI from 0x800275 to 0x800274
12/17/10 @ 19:11	-2.5	HMI from 0x800274 to 0x800275

Thermal Adjustments

1. **Deadband and Duty Cycle Adjustments**
   17-Dec-2010 at 19:21:11 UTC
   Author: Zoe

   Changed heater zone limits and duty cycles as follows:
   Zone 1 limits: low=29.5 C, tar=31.5 C high= 33.5 C
   Zone 2 limits: low=30.0 C, tar=32.0 C high= 34.0 C
   Zone 3 limits: low=29.0 C, tar=31.0 C high= 33.0 C
   Zone 5 limits: low=19.0 C, tar=20.0 C high= 22.0 C
   Zone 6 limits: low=19.0 C, tar=20.0 C high= 22.0 C

Zone 7 limits: low=19.0 C, tar=20.0 C high= 22.0 C
Zone 7 DB duty cycle=81%, duration=16

Sequencer Changes

None

Date/Time of Change	New Sequence	Notes

S/C Calibrations/Maneuvers

None

Pointing Adjustments

None

Long term Trends

1. **Corrupt Image FSN 469769216 (0x1C001C000)**
   Occurrences this week:
      1. No new Occurrences
   Occurrences to date: 19

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

Loads

1. **Retune Loads**
   14-Dec-2010 at 22:22:43 UTC
   Author: Emma, Brett, & Zoe

   - H_PZT_LOADS (with updated scripts for the retune)
   - H_SEQ_START (Updated script 9000 for retune)

2. **Timed Script Loads**
   14-Dec-2010 at 22:22:43 UTC
   Author: Emma, Brett, & Zoe

   - H_TIMED-CAL (Wrapper scripts for running cals by timed script)

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15-Dec-2010 at 19:12:34 UTC
Author: Zoe & Emma

- H_TIMED_CAL (New version with full and reduced focus sweeps.)

Other

1. **OC3 Line Outage**
   Dec 15, 2010
   Telemetry went stale around 22:26 UT on 12/15/10 due to an outage in the OC3 line carrying science (and housekeeping) data from white sands to Stanford. The HMI and AIA SDP machines were reconnected at 06:50 UT on 12/15/10.

2. **SUMS Disk Controllers Problems**
   Dec 18, 2010
   One of the disk controllers in the primary SUMS file system failed around 11:30 pm PST on 12/18/10. This caused Watch Lev 0 to go down. A temporary hourly cron job was created to provide access to current images. The problem persists as of 15:30 PST on 12/20/10.