SDO HMI Internal Weekly On-Orbit Report

Week of Monday, December 6, 2010 through Sunday, December 12, 2010

Summary

HMI successfully performed their weekly calibrations on Tuesday, December 7th (flatfield observation mode-1) and Wednesday, December 8th (flatfield calibration/observation mode-2, focus sweep, detune). There were two nominal clock adjustments made this week and no thermal adjustments. There was also a corrupt image seen on Tuesday making an on-orbit mission total of 19 of that version. The HMI team has been working on a retune and testing was successfully completed on Friday, December 10th on the testbed – new tables were loaded with new wavelength values, and a new default frame list with new settings. The actual instrument retune will be conducted early next week. HMI continues to perform nominally.

There was a GT/PZT Monthly Calibration on Thursday, December 9th. HMI both performed nominally.

Calibrations

Calibration	Date/Time	Ran by	Notes
Flat field (observation mode-1)	7-December-2010 19:13 UT	Zoe & Emma	FSN 14772323
Flat field (calibration mode)	8-December-2010 18:24 UT	Zoe	FSN 14817891
Detune	8-December-2010 18:33 UT	Zoe	FSN 14817179
Focus Sweep (reduced)	8-December-2010 18:37 UT	Zoe	FSN 14817324
Flat field (observation mode - 2)	8-December-2010 18:44 UT	Zoe	FSN 14817540

Additional Operations

1. **Retune Testing**
   10-Dec-2010 at 18:15:17 UTC
   Testing was successfully carried out for the upcoming HMI Retune. To make future retunes easier, all frame lists and scripts will be updated to use "pointer values" in hexadecimal format, for the wavelength tune index. The pointer values correspond to a wavelength ID, so in the future we will only need to change the wavelength tune index values, not all of the wavelength IDs in every frame list and script.

   For the testing procedure, new tables were loaded with the new wavelength values, and the new default frame list (1021) was tested successfully with the new settings.

10-Dec-2010 at 18:29:54 UTC
Author: Brett Allard

18:29 FTS_V02 Active with FTS_ID 1001. Will monitor to verify the frame list is still functioning properly

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10-Dec-2010 at 18:59:14 UTC
Author: Brett, Emma, & others

Retune test complete
FTS_ID 1021 with WL_SET_ID =10 ~18:42UT FSN ~14909626
FTS_ID 1021 with WL_SET_ID =11 ~18:44:30UT FSN ~14909699
FTS_ID 1001 with WL_SET_ID =11 ~18:51:30UT FSN ~14909915

Set WL_SET_ID back to 10

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
12/7/10 @ 19:15	-3.9	+13.6	+9.7	HMI from 0x800275 to 0x800274
12/9/10 @ 18:20	-13.7	+6.2	-7.5	HMI from 0x800274 to 0x800275

Thermal Adjustments

None

Sequencer Changes

None

Date/Time of Change	New Sequence	Notes

S/C Calibrations/Maneuvers

1. **Monthly AIA GT/PZT Calibration**
   09-Dec-2010 at 15:11:42 UTC
   Author: jake wolfson

   The PZT/GT Calibration began at 15 UT as planned. Not sure if seeing "HSS101 14:59:03 EIP: ssim_tm: HSS101 SS unable to find wildcard filename match for *7004.*.SCR" in the HMI world is something to worry about or not. And, I don't see anything yet about the HMI loops closing. But will check in a bit when the H&S page has updated.

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   09-Dec-2010 at 15:15:16 UTC
   Author: jake

   The screen shows the ISS loop is open; so all is probably well.

Pointing Adjustments

None

Long term Trends

1. **Corrupt Image FSN 469769216 (0x1C001C000)**
   Occurrences this week:
      1. 2010-12-07 @ 03:02:00

   Occurrences to date: 19

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

   Occurrences to date: 3

Loads

3. **Retune Loads**
   10-Dec-2010 at 18:15:17 UTC
   Loaded new frame lists and tables for the HMI Retune procedure:
   a. H_FTS_V02
   b. H_OBS_V02
   c. H_CAL_V02
   d. H_CONF_V01

Other

None