

HMI Weekly Report Summaries: March 2011

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

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.

Week of Monday, March 14, 2011 through Sunday, March 20, 2011

HMI successfully performed their weekly calibrations on Tuesday, March 15th (flatfield observation mode-1) and on Wednesday, March 16th (flatfield calibration/observation mode-2, detune, reduced focus sweep) using timed scripts. The heater zone 7 temperature has been dropping a couple degrees lower than the other thermal zones during eclipses, so the lower deadband was raised in an attempt to stabilize the temperatures. However, it was found that the cycling in heater zone 7 caused by the tighter deadbands was detrimental to the instrument pointing, so the deadbands were widened back to their previous setpoints.

Eclipse season continued this week. During the eclipse on March 16th, the AIA ATA 3 ISS was updated to use the PZT MAX offset range. ATA 3 controls the spacecraft pointing, so this adjustment affected HMI's PZT voltages as the PZT legs were offset to accommodate the pointing shift. On March 17th, a leg adjustment was performed in order to bring the PZT voltages back within a safe range. HMI is performing nominally.

Week of Monday, March 21, 2011 through Sunday, March 27, 2011

HMI successfully performed their weekly calibrations on Tuesday, March 22nd (flatfield observation mode-1) and on Wednesday, March 23rd (flatfield calibration/observation mode-2, full focus sweep) using timed scripts. Eclipse season continued this week, and adjustments were made to the eclipse scripts in an effort to optimize eclipse recovery. On March 24th HMI performed post-eclipse detunes in place of focus sweeps; the data has not yet been analyzed. The second Station-Keeping (Delta V) Maneuver was performed successfully on March 23rd. HMI saw two corrupt images this week, for an on-orbit total of 31. HMI is performing nominally.

Week of Monday, March 28, 2011 through Sunday, April 3, 2011

HMI successfully performed their weekly calibrations on Tuesday, March 29th (flatfield observation mode-1) and on Wednesday, March 30th (flatfield calibration/observation mode-2, reduced focus sweep) using timed scripts. Eclipse season continued into this week, and adjustments were made to the eclipse scripts in an effort to optimize eclipse recovery. Eclipse season ended on April 2nd. HMI received a timer violation error message on March 28th. This error has been seen once before, during the last eclipse season, and is related to the script system. It is not threatening to the safety of the instrument or the integrity of the science data. The existing IAR was updated and will continue to be investigated. On Thursday, March 31st, the

monthly AIA GT/PZT calibration was executed successfully. HMI performed nominally throughout. HMI saw one corrupt image this week for an on-orbit total of 32. A new version of the EGSE (7-4-6) was installed successfully on the HMIIOC-CMD and HMIIOC-MON machines on April 1st. HMI is performing nominally.