May 8, 2002

MODIS sensor Working Group (MsWG) Summary

Attendance: Farida Adimi, Bill Barnes, Roger Drake, Wayne Esaias, Bob Evans, Gene Feldman, Bryan Franz, Eddie Kearns, Chuck McClain, Gerhard Meister, Chris Moeller, Vince Salomonson, Gary Toller, Jack Xiong, Jim Young, Zhengming Wan, Joe Esposito

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Scheduled Items

Item 1 Aqua MODIS Status

Successfully launched at 09:54:58 GMT on May 4th (2002/124)
Survival heaters enabled at 14:18 GMT on May 4th (2002/124)
Power-on and door unlatching on May 7th (2002/127)

BB) SVD, NAD, SDD are unlatched but closed
RD) Outgassing will start on May 17 and continue for about 3 weeks.
The temperatures all look good and are consistent with the Terra launch.
BB) Science will commence on June 9 and the NAD will be opened on June 17.
Chad has seen some errors from the CPB
RD) The CPB events are in (1553 bus) telemetry and may be due to S/C commanding.
Chad will correlate the times of events with the S/C commands.

Item 2 Terra MODIS Safe Mode Recovery Analyses Update

SD - No difference from Open / Closed Nadir door SD calibration
BB - b1 are stable (except two previous noisy detectors)
SRCA - Radiometric mode and spectral mode observations indicate no anomalies
Ecal - Results as expected (no change in gains)
RSB SNR and TEB NEdT tracked

JX) After the safe hold was restarted MCST preformed full calibrations of SD, BB warmup/cooldown, SRCA, and Ecal.
SD – m1 trend continued after turning back on.
MCST is tracking MSCN patterns
RSB SNR and TEB NedT tracks as stable.
MCST awaits Miami verification of these results
BB) At 5pm today EEPROM patches are to be put in (Terra) to enable future recoveries from formatter turn-offs. The formatter is seeing over 200,000 events per day.
RD) A single word patch can get rid of 80% of the problem
There is a 7°K margin on the 83°K cooler. Icing may have caused a decrease in heater power but the ice has since out-gassed. All steps have been taken on Aqua to prevent icing.

Item 3 Other MCST issues

B26 testing (at different configurations)
Tracking MSCN
SDSM working
Design and implement DSM RVS retrieval algorithm

Compiled by J. A. Esposito May 8, 2002

JX) MCST is waiting for Chris' coefficients for the first Aside.
Don't know how much science impact MSCN will have. (Mainly B33-36)
Terra SDSM work is being done and will be repeated for Aqua.
Deep Space maneuver – fast turnaround of results to make decisions for repeat Aqua or Terra maneuver(s). Maneuver is currently set for roughly L+70.
The mirror side ratio (relative RVS) is close to one. This is not the case for Terra where the mirror sides are different.

Around the Table

Participant: Roger Drake – Aqua is not in Fine Pointing (FP) mode due to a discrepancy between the star trackers. Need to load patches to star trackers. This causes a slip in the delta-V test burn.

BB) Ken Anderson wants to know if MODIS ground truth can be used to determine which tracker is correct.
(Question to Bob Evans) How did the safe-hold change things on Terra?

Participant: Bob Evans – Miami is in the process of collecting data to see if new corrections are needed. The changes seem to be on the same order as previous events.
After the reset the cross mirror scan IR must be corrected. There is also an East-West mismatch. Relative detector to detector has variability of 0.1% to 0.35%. Detector noise causes instabilities that show up as offsets. Can MCST provide more current LUTs?

JX) The LUTs MCST provided are good up to the safe-hold. We see no differences after safe-hold therefore the same LUTs are good to use after safe-hold.

WE) Should the RVS be done by detector.

JX) Variation of RVS over detectors is negligible.

BE) Miami sees differences in TEB cross scan detector to detector and is going to need to develop D-D X-scan.

JX) For the TEB we can measure the RVS off the NADIR but cannot do this for the RSB. We have 3 angles (AOI of SD, SRCA, and SV for lunar) but the lunar detector to detector is noisier. This is also the case for EV.
(Answer to BE question) For Aqua, L1B version 4 will be used (this is the same as the current L1B, same algorithm)

Participant: Chris Moeller – Correction coefficients are very similar for original Aside and Bside. D1 (product order) seems to be noisier on Aside.

JX) Suggest not to derive coefficients for all the early configurations (covers a very short period of time).

CM) Farida should try the coefficients.

JX) The coefficients seem to work well when the B5 gain change is taken into account.