

13 June, 2001

MODIS sensor Working Group (MsWG) Summary

Attendance: Bill Barnes, Bob Evans, Chris Moeller, Ed Zalewski, Gary Toller, Jack Xiong, Roger Drake, Steve Platnick, Wayne Esaias, Zhengming Wan, Gwyn Fireman, Junqiang Sun

Note: Barnes and Xiong will be at SBRS next week; local participants may meet at Forbes Blvd. as usual.

Scheduled Items

MCST SDSM modeling and simulation analysis update

- MCST's modeling of SDSM screen shows ripple when using original design parameters.
- Empirically-derived screen and aperture tilt parameters cause model to match results of only one yaw at a time.
- MCST will consider aperture size, hole spacing, and axis tilt as variables to try to derive a single set of coefficients to match all yaw data.
- Drake reports that lab measurements of SDSM screen flight spare are posing more difficulties than expected: it requires a uniform calibration source with 1/2-degree cone angle and no optics interference.

Aqua FM1 nadir door issue

- Last Thursday night, the NAD was commanded open when already open
- The door hit hard stops, jammed, and was unable to be commanded to step back in.
- After the failsafe link was disconnected, the motor turned on and the NAD returned to normal position.
- The project has decided to replace the NAD motor this Thursday morning.

Aqua FM1 B1/B2 issue update

- SBRS's Detector Division has analyzed all inputs to detector signal, and determined that the Band 1 and 2 detectors themselves have not significantly changed.
- Filter characteristics and FPA temperature variation will be analyzed further.
- SBRS will continue detailed analysis of TRW collects.

Around the Table

Barnes:

A Deep-Space Maneuver for Solar Diffuser BRF measurement is being recommended to senior Terra administration. If approved, two or three maneuvers will take place:

- Deep Space in September
- A few days later, with Moon in view

- One lunar cycle later, with no Moon in view (if needed).

Analysis of data from the first two maneuvers is expected to take two weeks after data is received; the third maneuver will be scheduled only if needed, after first analyses are complete.

Evans:

- Sees a color imbalance in MODIS radiance values compared with MOBY values. Miami must increase MODIS NIR values by 3–4%, and decrease blue bands by the same amount to make MODIS data agree with MOBY values. Correction is fairly monotonic from 400–600 nm.
- Latest results from side B December 2000 observations, processed with latest L1B software and LUTs (incl. SD degradation correction), continue the trend first seen in electronics side A data.
- Radiance correction shift is within the 5% spec for radiance, but MCST should correct consistent errors if possible. It would be helpful to look at data over a longer term, and to get input from other MODIS scientists as to whether they see the same sort of color imbalance.

MCST:

- Xtalk correction schedule: Xtalk coefficients have been derived from SRCA tests. Extensive changes are needed to several modules, which will require an internal walkthrough. Code changes and module tests are expected to be complete by June 22; we can begin to process sample images after that time.
- LWIR PV ITWK/VDET analysis: Waiting for B-side noise data.
- Band 26 striping: No striping is evident in night data, so not due to thermal leak. Crosstalk is seen, but no detector dependence is apparent, and non-linear Xtalk term is insignificant at low radiance. No physical explanation has been found for B26 striping; empirical correction is all that's left. We'll address B26 striping on June 28.

Moeller:

Applying an empirical crosstalk correction (subtracting a percentage of Band 5 radiance from Band 26), Moeller has been able to attain surface feature improvements in Band 26. He has also been able to remove B26 striping empirically. The correction algorithm currently uses L1B radiance data, but should use L1A raw values. To remove striping, Band 26 channel 1 and 10 influence coefficients for Xtalk corrections need to be changed.

[Action 0106-07: Send Band 26 influence coefficients to Moeller.](#)

Q: How much time will it take to get a useful RVS measurement during the deep-space maneuver?

A: The pitch maneuver will cause the MODIS cooler to be exposed to earthlight. Eventually MODIS will lose thermal lock; it will take a day to recover cooler temperature after that.

Esaias:

Q: Will FM1 RVS be measured in T/V with NAD closed?

A: Yes, planned for both T/V and early orbit. T/V may have artifacts due to door being at ambient temperature.

Zalewski:

Didn't receive recent email; please resend.

compiled by G. Fireman 18 June, 2001