

25 April, 2001

MODIS sensor Working Group (MsWG) Summary

Attendance: Bob Evans, Susan Walsh, Chris Moeller, Eric Vermote, Gary Toller, Jack Xiong, Mike Roberto, Roger Drake, Steve Platnick, Stuart Biggar, Wayne Esaias, Zhengming Wan, Gwyn Fireman

Scheduled Items

News:

- B5 Gain Change implemented on April 23, 2001 113/13:17:53 13:28:08.
- VDET/ITWK sweep done on April 23, 2001 113/20:47:32 – 20:57:45.
- SRCA test will need to be approved at the MODIOT Configuration Authorization Meeting
- Update: SRCA test approved; took place Friday, April 27, 2001 117/14:27:14 – 16:26:07.

Issues on One Year Data Reprocessing

Note: Band 8 degradation plots sent with the agenda had illegible axes; for all plots the X-axis runs from day 306 to 461. The Y-axis is $(1-m1_fit/m1)$; range is about ± 0.003 for residuals. Contact Jack Xiong if you would like these plots in PDF format.

Miami received v. 3.0.0 code and LUTs.

- Measured $m1$ values supplied, in L1B these are linearly interpolated to observation date, and linearly extrapolated from the last two $m1$ values.
- Evans, Vermote, and Platnick would prefer to use fitted $m1$ values.
- $m1$ values are corrected for an exponential SD degradation function. The SD vignetting function has uncertainty of about 0.3%. Miami is concerned that 0.3% uncertainty could cause a 3% “bounce” in derived value.
[Action 0104-24: Check BRF accuracy as possible source of vignetting uncertainty.](#)
- Miami has TEB LUTs for L1B v.2.5.5.2, dated March 26. Do these contain the latest BB emissivity tables?
[Action 0104-25: Check for latest BB emissivity tables.](#)

The reflectance term ($m1$) could be provided in any of three ways for reprocessing:

- Use measured $m1$;

- Use m1 values predicted from fit to historical values, for the period of m1 observations only. Forward processing would use a linear extrapolation.
- Use m1 values predicted from fit to historical values; use the fit function to provide extrapolated m1 values for forward processing.

For all three methods, L1B processing linearly interpolates the m1 values to date of observation, and linearly extrapolates from the last two supplied m1 values.

Using a functional form of m1 makes derivation of Miami's correction factors easier.

[Action 0104-26: Send to Miami table of m1 values predicted from 3rd-degree polynomial fit to historical values.](#)

MCST will provide new m1 LUTs every two or four weeks, TBD.

Timelines:

- The Land team has a deadline of May 1 for their SDST interface.
- MCST LUT delivery target is May 1.

B14H calibration Issue

- Wayne Esaias and Mark Abbott received the Band 13hi/14hi report.
- Miami reports that changing Band 14hi would not affect the cloud mask, as they are using Band 14lo.
- Mark Abbott prefers the higher sensitivity; **leave Band 14hi gain at 255.**
- Wayne comments that the report nicely shows that we can track band-to-band to 1 part in 1000 with either SRCA or EV data.

Band 34 temperature end-of-scan rise:

MCST provided plots showing Band 34 Det 5 plots for four dates, all with the same RVS. The MS1/MS2 ratio has remained constant from Jan. 6 to April 10, 2001.

[Action 0104-27: Send Moeller and Wan DN trending plots for Bands 33 and 35, similar to those done for Band 34.](#)

Moeller sees a bias in cloud heights at the end of scan. Bands 33, 34, 35, and to a lesser extent, 36 are used. Ratios of these bands imply that the bias is in Band 36. The bias does not appear to be a mirror side issue as a scan angle issue; it was first detected in cloud-height global composites.

Around the Table

Platnick:

Reiterated concern that with delays of the SRCA test, striping issues will not be resolved in time for reprocessing.

Vermote:

Discussed polarization correction with Miami.

Q: Needs line-spread function for Band 20.

A: Never measured for PFM; needs to come from SBRS.

[Action 0104-28: Check for existence of FM-1 Band 20 line-spread function.](#)

Jack suggested that the LSF shape would be similar for each band, with an offset determined by FPA position. A Band 20 LSF could be modeled from Band 22. Vermote responded that even a 50m error makes a big difference in a fire band.

Wan:

Would like Band 33 DN trending charts, as produced for Band 34.

Reports that April 16 field campaign data was unusable due to observing conditions.

Moeller: Reminds us of March field campaign, using MAS data at various view angles.

compiled by G. Fireman 27 April, 2001