

7 February 2001

Agenda

News

SWIR issue during moon in SV port data times
OOF detector, channel 8, Band 30 2001016 and later
Band 2 L_{sat} status

Other designated items

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Attendance: Guenther, Vermote, Toller, J. Xiong, Esaias, Evans, Kearns, Platnick, Salomonson, Moeller, Drake, Young, Barnes

News

SWIR issue during moon in SV port data times

Problem: Current code uses BB sector to correct RSB for DC_offset values; BB sector in SWIR bands contaminated by thermal leak.

Recommendation from MCST: Use SV sector data, “cherry-picked” to avoid moon-contaminated pixels; install in production code with next code upgrade as fine-tune adjustment, rather than develop code upgrade primarily designated to fix this specific artifact, except that the set of fine-tune adjustments will be rolled up into a new delivery if we otherwise would have gone more than 3 months between new deliveries

Action: Recommendation accepted; MCST need schedule 3 consecutive granules of day rate data at night in current operating configuration; Science Team identify particular granules with SWIR effects for our joint study [final two actions SWIR related, but not related to moon in SV_port].

Discussion: MCST reviewed part of our SWIR sub-frame study; will need new data from SRCA, but acquired in a manner that first requires testing on EM electronics at SBRS. Acquisition of these data sets will require at least a few weeks, so results from this study likely will not be ready before some time in March, 2001.

OOF detector, channel 8, Band 30 2001016 and later

Problem: Detector 8 in Band 30 (product order) has “gone” Out of Family in gain, with gain differences up to 20% in middle January, 2001; Detector 5 already designated as noisy detector

Recommendation from MCST: Designate Detectors 5 and 8 as non-functioning, thereby allowing the L1B production code to supply an average from nearest neighbor pixels (in track) in the L1B product. Detector 1 in this band looks out of family too, and we should provide separate recommendation on what to do with this detector soon.

Action: Recommendation accepted.

Discussion: Chart showing linear gain variability in Yr 2001 seems to be driven by FPA temperature variability; more study needed on this topic

Band 2 L_{sat} status

Problem: Band 2 saturates looking at clouds; this saturation a significant complication for cloud mask

Comment: Sensor delivered with premature saturation in Band 2 CCD wells; we cannot make any improvement by gain changes for this band

Action: SBRS and Platnick need review VIIRS specifications to verify that equivalent VIIRS bands are appropriately specified for $L_{\text{cloud}}/L_{\text{max}}$; look at Band 5 programmable gain with view to increase saturation by up to 10%.

Other designated items

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Oceans:

1. Need hard freeze of L1B for data day June, 2001 wrt oceans products
What are the MCST projected updates and changes that we expect in L1B; identify them to Miami ASAP
2. Mirror-Rotation Correlated Noise (MRCN): status-MCST studied effect of BB heater cycling and determined that the MRCN did not change for one day period where BB heater was off, compared to previous and following days where heater was cycling.
3. Polarization corrections: status-MCST has investigated linear gain term in Band 3 for sun passing across the solar diffuser. If SD reflections polarized, and sensor has polarization sensitivity across detectors in track direction, then we would expect systematic variations in linear gain by channel over this data set; we see no systematic changes, and interpret that as evidence that we are not in error due to polarization effects in how we determine the linear gain off the SD. Added evidence to support this conclusion is that RSB ocean images seem to show little to no striping at AOI that corresponds to angle of SD, but does show stripes at AOI away from those AOI

Atmospheres:

For next meeting, 14 February, want to look at Band 26 detector striping. Stripes seem to be at a minimum at the radiance level that corresponds to the radiance that we see looking at the SD_screen_open values. But for Band 26, SD_screen_closed also is on scale. MCST has not been using this data. Evidence seems to point to non-linearity in Band 26 that is different channel to channel, but current production algorithm has a_0 and a_2 (non-linear) terms set to zero. In Band 26 at night data we see no evidence that we have no effects that are not properly captured with zero values for that variable. But we may have problems with a_2 terms. If a_2 needs to be non-zero then looking at SD_screen_open we are getting wrong m_1 values. Two ways to check this; one is looking at SIS100 values by channel to see if any non-linearity effects channel-by-channel exist in those data (can't use that data for overall band linearity, but may use it for differential channel-to-channel non-linearity effects), also can look at SD_screen_closed data compared to SD_screen_open for linearity effects, even though we have difficulty sorting out effects of SD screen on the SD data set. MCST will provide status report on our studies of Band 26 stripes for 14 February meeting.