



MsWG (March 2, 2016)



- Recent L1B LUT delivery since February 17, 2016
 - Aqua C6 Forward Update: 02/26/2016, 6.1.35.13 (m1, RVS)
 - Aqua C5 Forward Update: 03/01/2016, 5.0.43.10 (m1, RVS)
- MODIS instrument status
 - Terra and Aqua MODIS are in nominal operations
 - Terra IAM#44 03/03/2016 (DOY 2016/063). Tentative LOPA: 12:26:23-17:29:32
 - Terra IAM#45 03/11/2016 (DOY 2016/071). Tentative LOPA: 13:06:43-18:18:04
 - Terra Black Body Cycle Scheduling for DOY 2016/062-065
- MCST recent activities:
 - Impact on Terra safe-mode anomaly on the MODIS instrument (slides 2-19)
 - Summary:
 - Nadir Door re-opened: 2016/055 20:01:32
 - Special calibrations (SDSM and BB WUCD) scheduled to monitor the instrument's behavior on-orbit
 - RSB VIS/NIR bands gain change less than 0.5%, Some detectors of SWIR bands show up to 2% gain change
 - LUT updates necessary to account for the gain changes after the recovery
 - Additional detectors in TEB (bands 27,29) need monitoring
- Around the table



Terra Safe Mode



- On February 18th, 2016 (2016/049) the Terra FOT were executing Inclination Adjust Maneuver (IAM) #43
 - During the execution of IAM #43, prior to the maneuver burn, the slew tables tripped the Fault-Detection Isolation & Response (FDIR)
 - Terra autonomously transitioned into Earth Point Safe-Hold at 049/14:33:17
 - MODIS transitioned to Safe Mode at 049/14:33:30
- Terra spacecraft last transitioned to Earth Point Safe-Hold on December 16th, 2003



Terra MODIS Safe Mode Recovery



- MODIS transitioned to Standby Mode at 2016/054 16:41:52
- MODIS preformed Outgas procedure from 2016/054 17:34:43 until 2016/055 19:19:40
 - Total Outgas Duration: 25:44:57
- Space View Door opened at 2016/055 19:22:52
- MODIS transitioned to Science Mode at 2016/055 19:26:34
- Blackbody was turned on (290K) at 2016/055 19:59:21
- Nadir Door was opened 2016/055 20:01:32
 - Telemetry point did not read “OPEN” directly after issuing command
 - Same problem has occurred in past
 - Telemetry Point switched to “OPEN” during back orbit and was confirmed at 2016/055 21:05:00



Terra QA Status



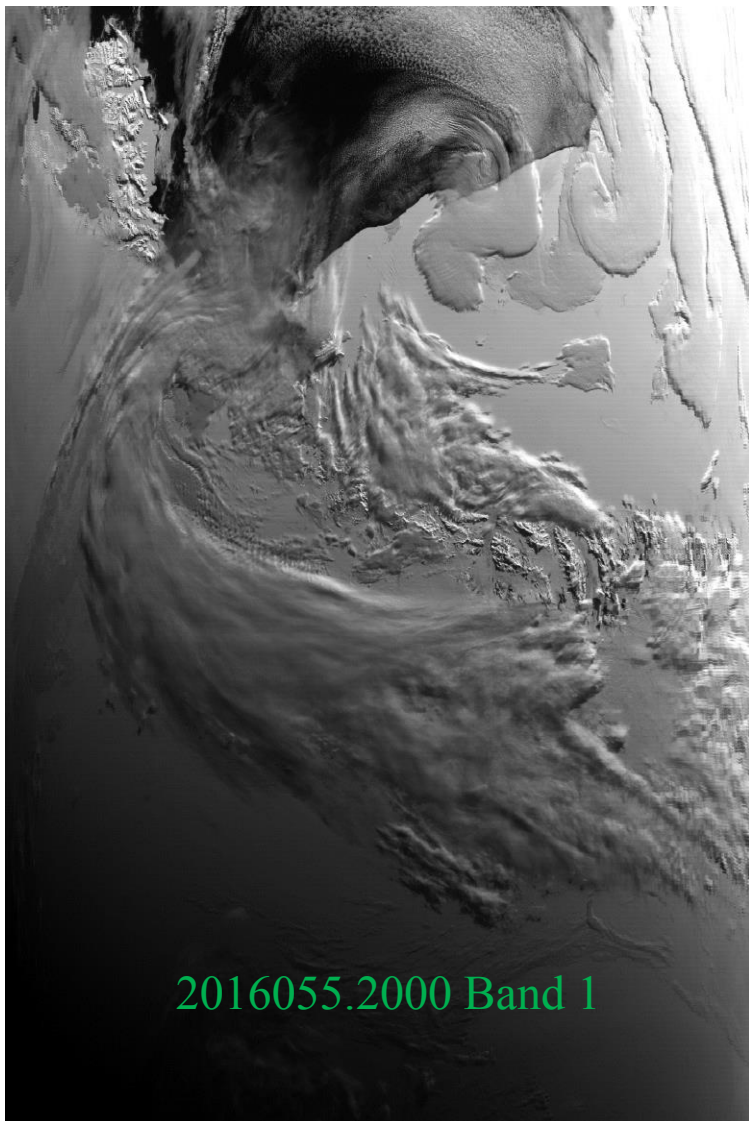
Band	Noisy	Inoperable	Need monitoring Safe Mode Recovery
27	1,2,3,6,8		9,10
28	1,8,9,10		
29		6	5,9
30	1,3,4,5,7,8	4	
33	1		
34	6,7,8		
36	All	7	

Detectors in product order

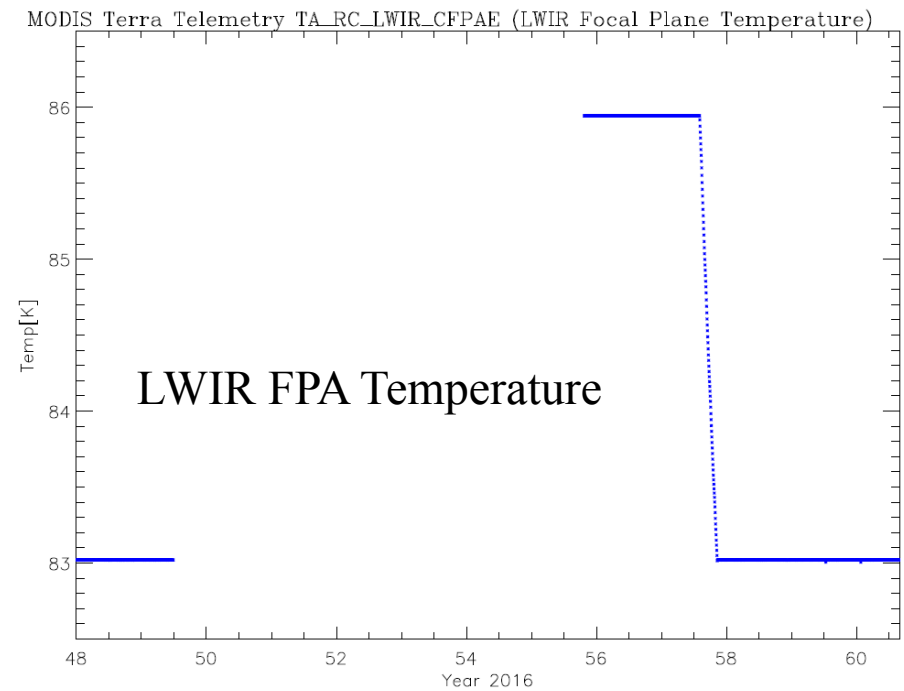
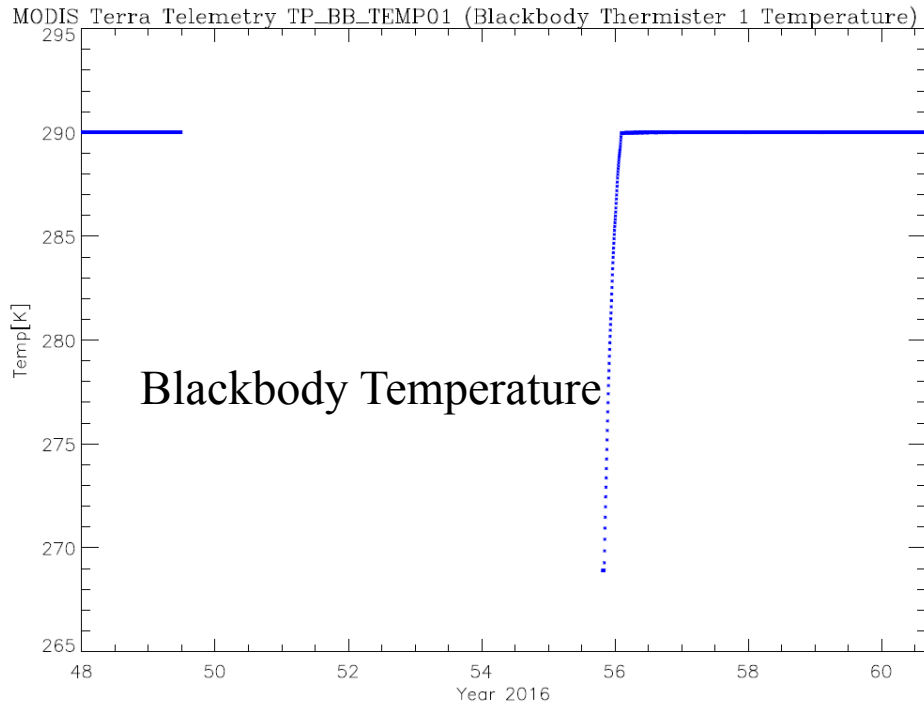
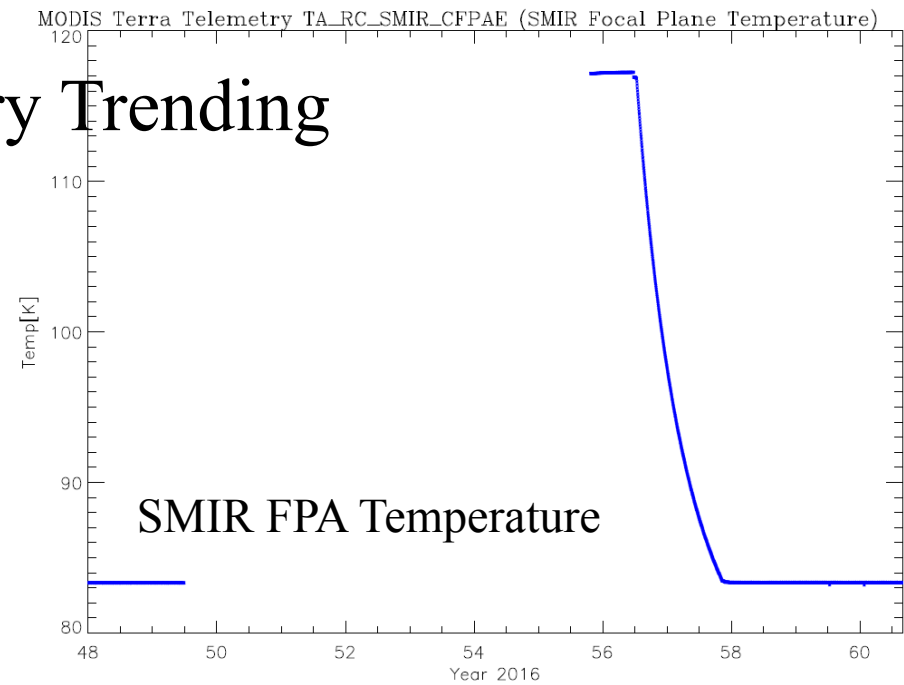
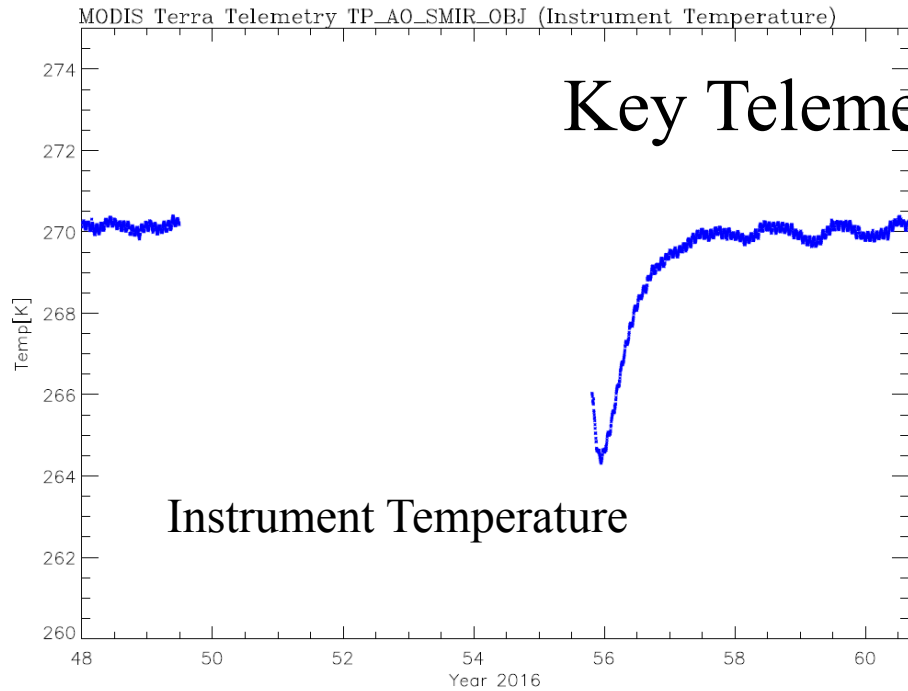
No out-of-family behavior observed for RSB detectors



Earth-View Images after safe-mode recovery



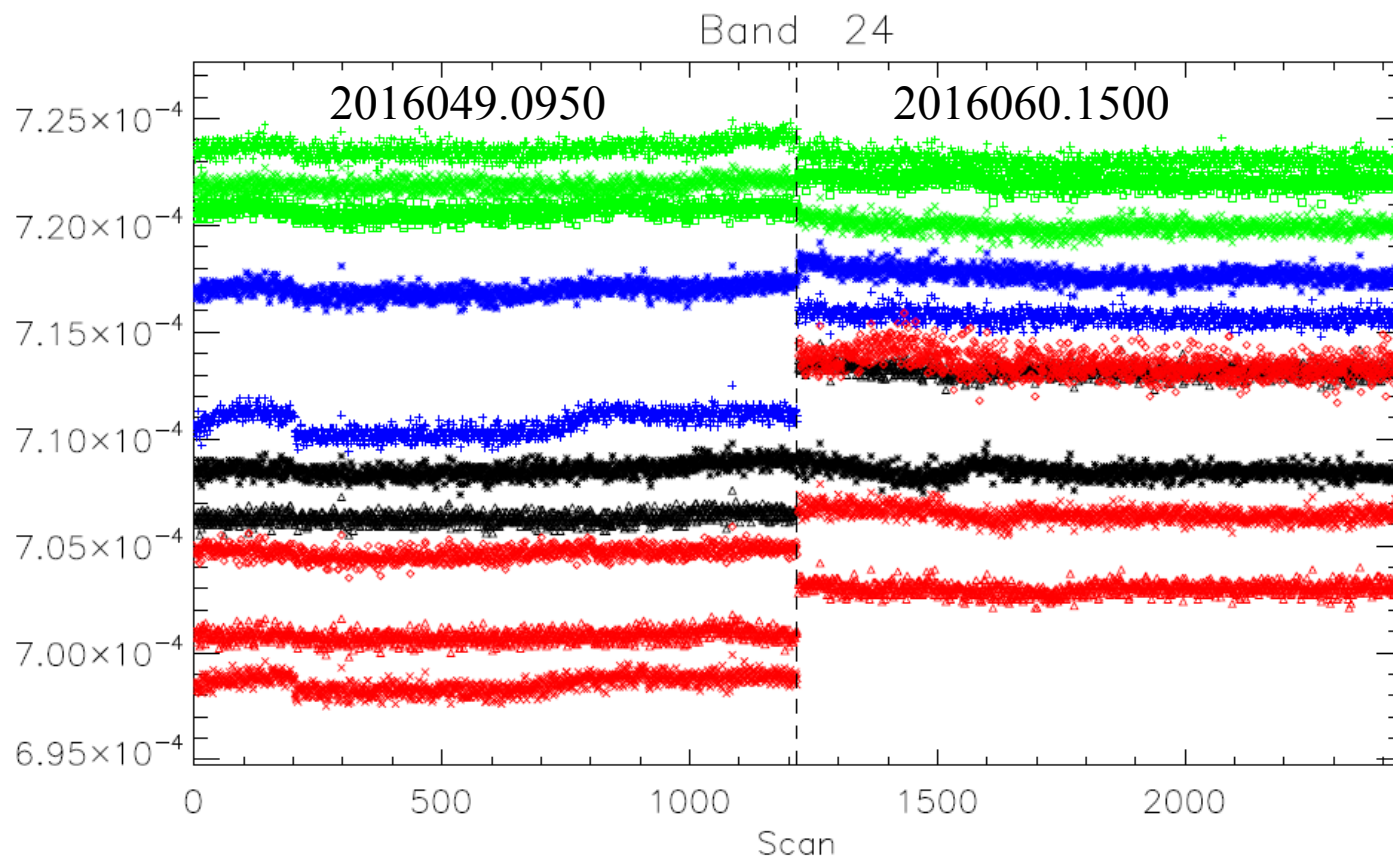
Key Telemetry Trending





TEB b_1 vs scan

Terra MODIS On-orbit TEB b_1 vs Scan
(MS1; Detector in Product order)



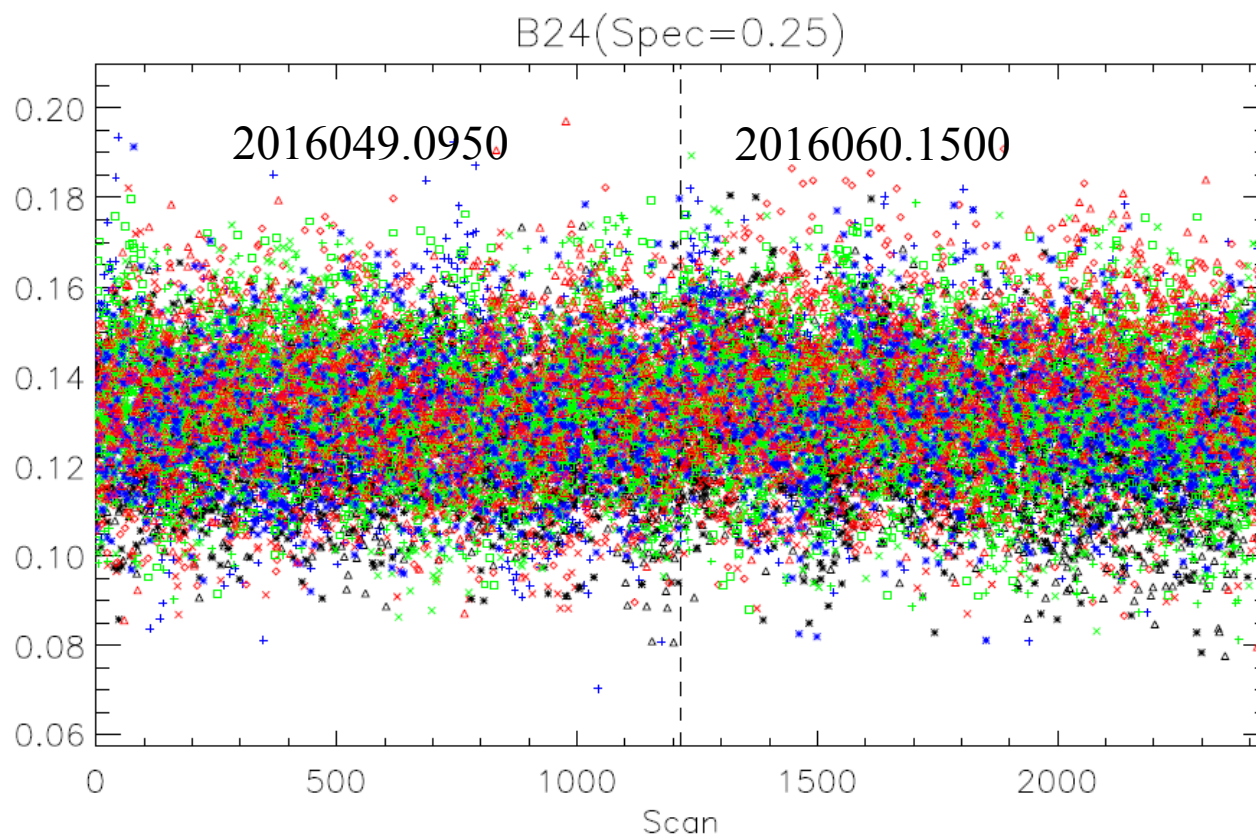
Ch1:Red x Ch2:Blu + Ch3:Blk * Ch4:Blk Δ Ch5:Red ◇ Ch6:Grn □ Ch7:Grn x Ch8:Grn + Ch9:Blu * Ch10:Red Δ

Data collected time: P2016049.0950–P2016049.1145; P2016060.1500–P2016060.1555 Itwk/Vdet = 79/190



TEB NEdT vs scan

Terra MODIS On-orbit TEB NEdT vs Scan
(MS1; Detector in Product order)



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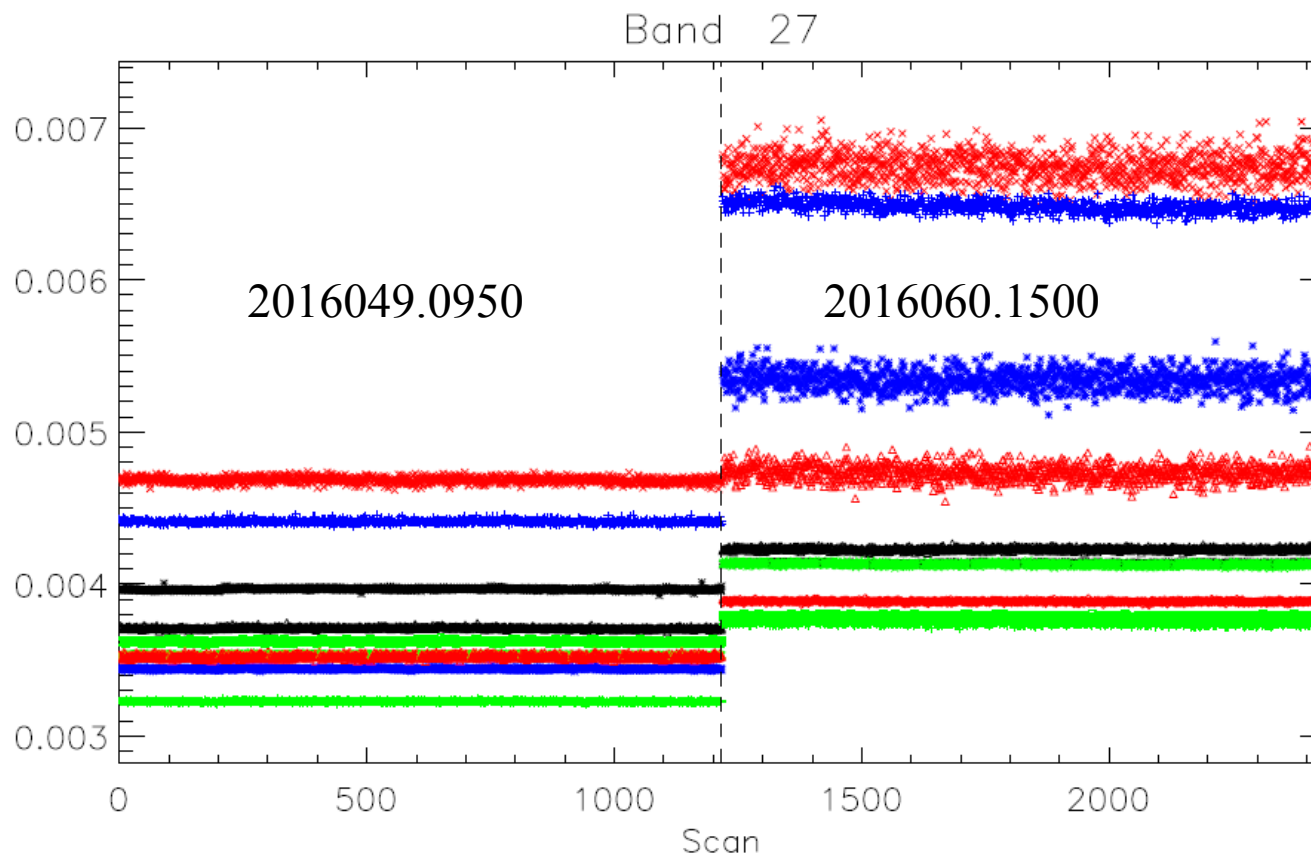


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Noisy
Detectors:
1,2,3,6,8

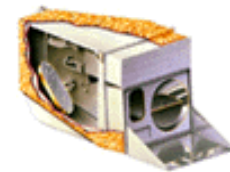


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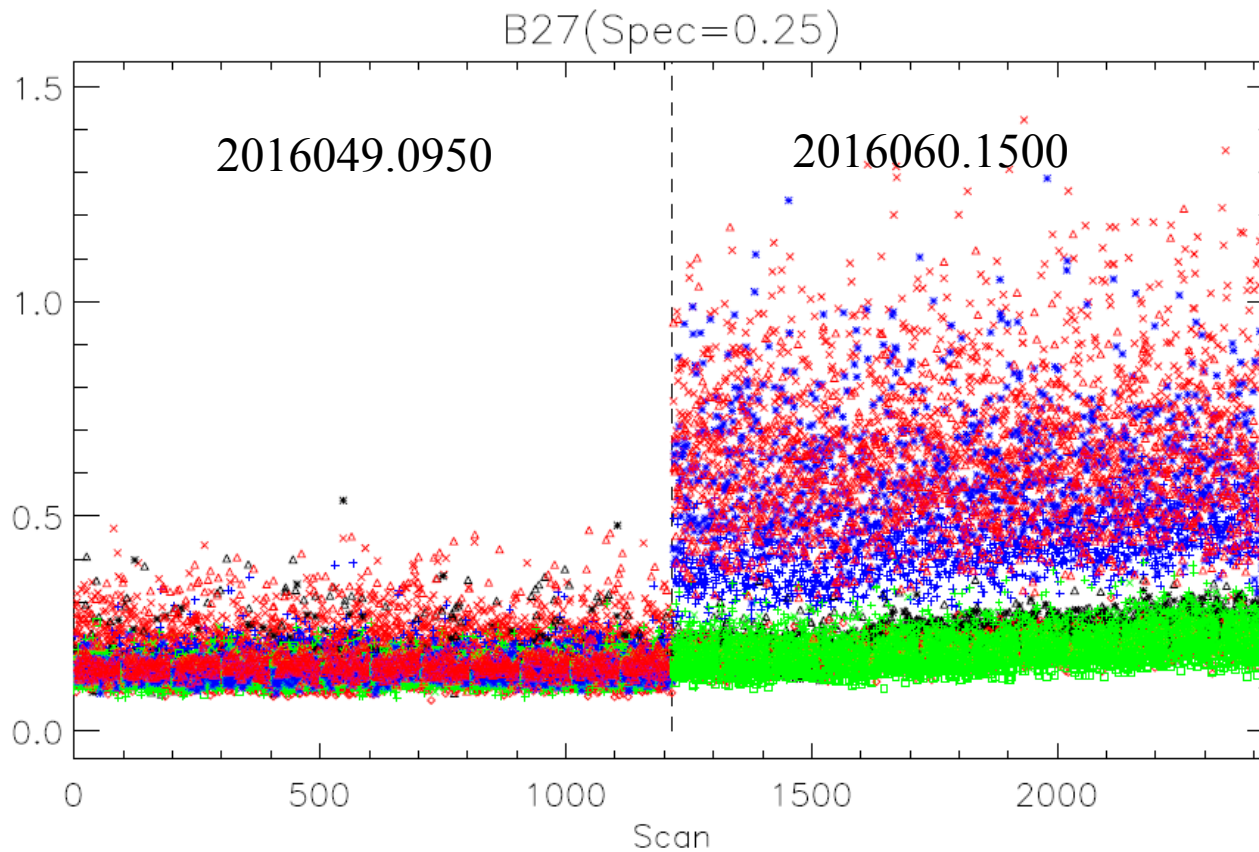


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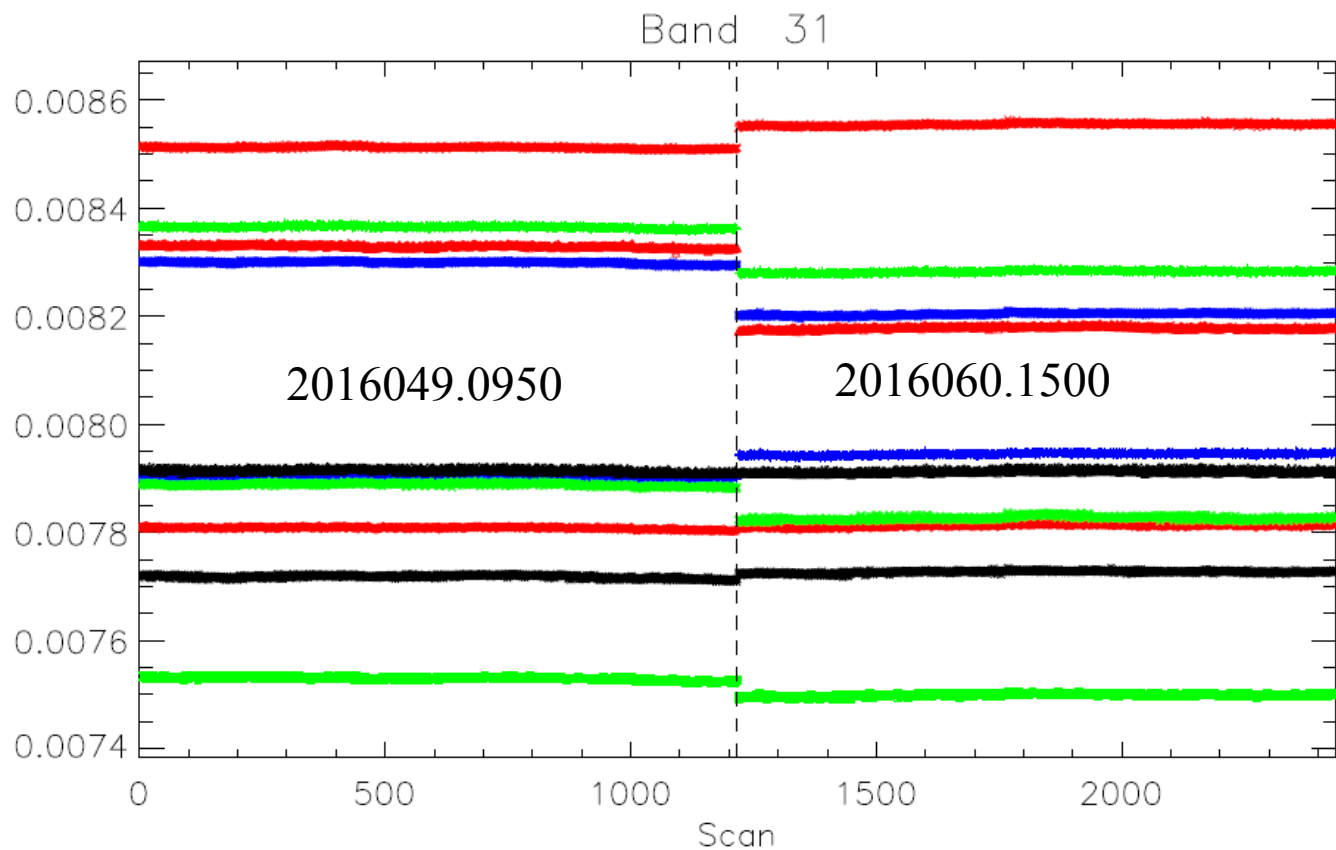
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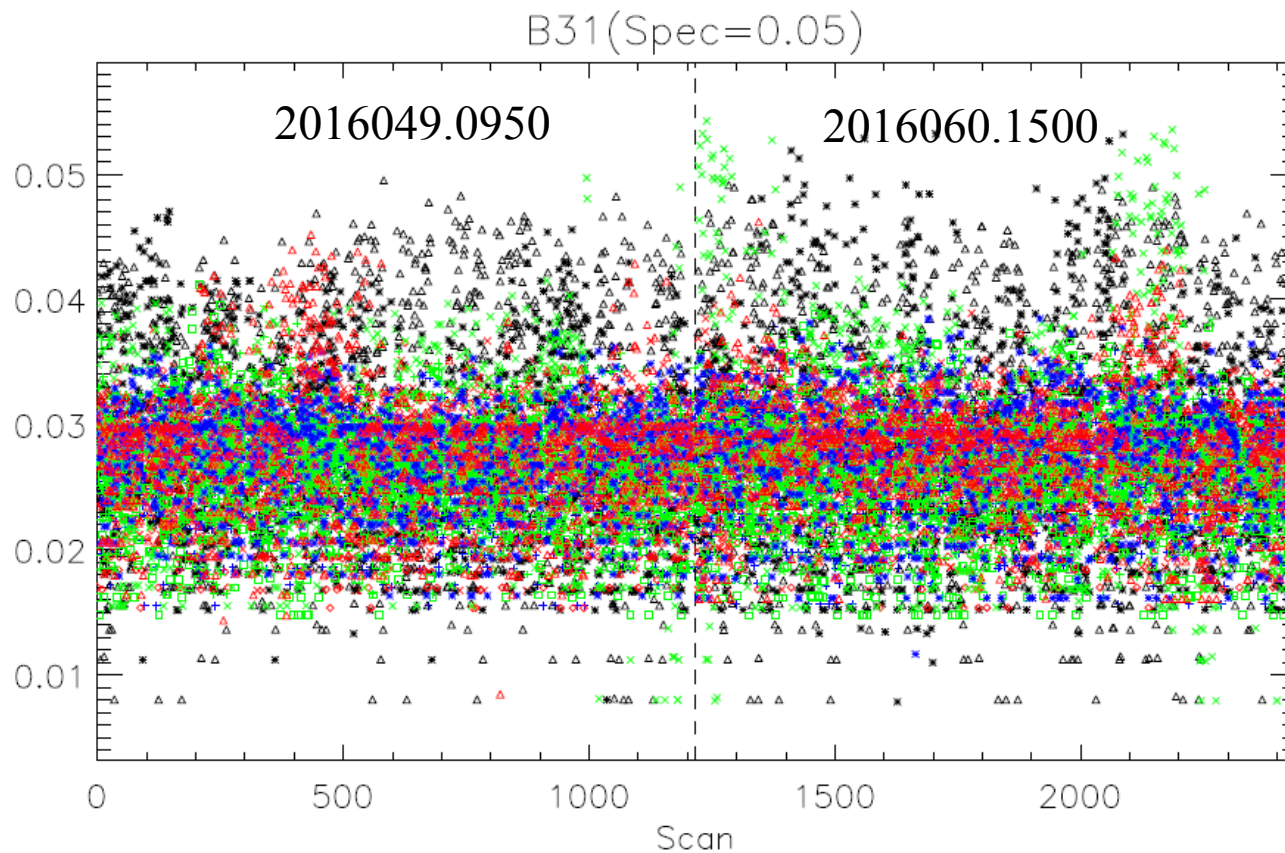


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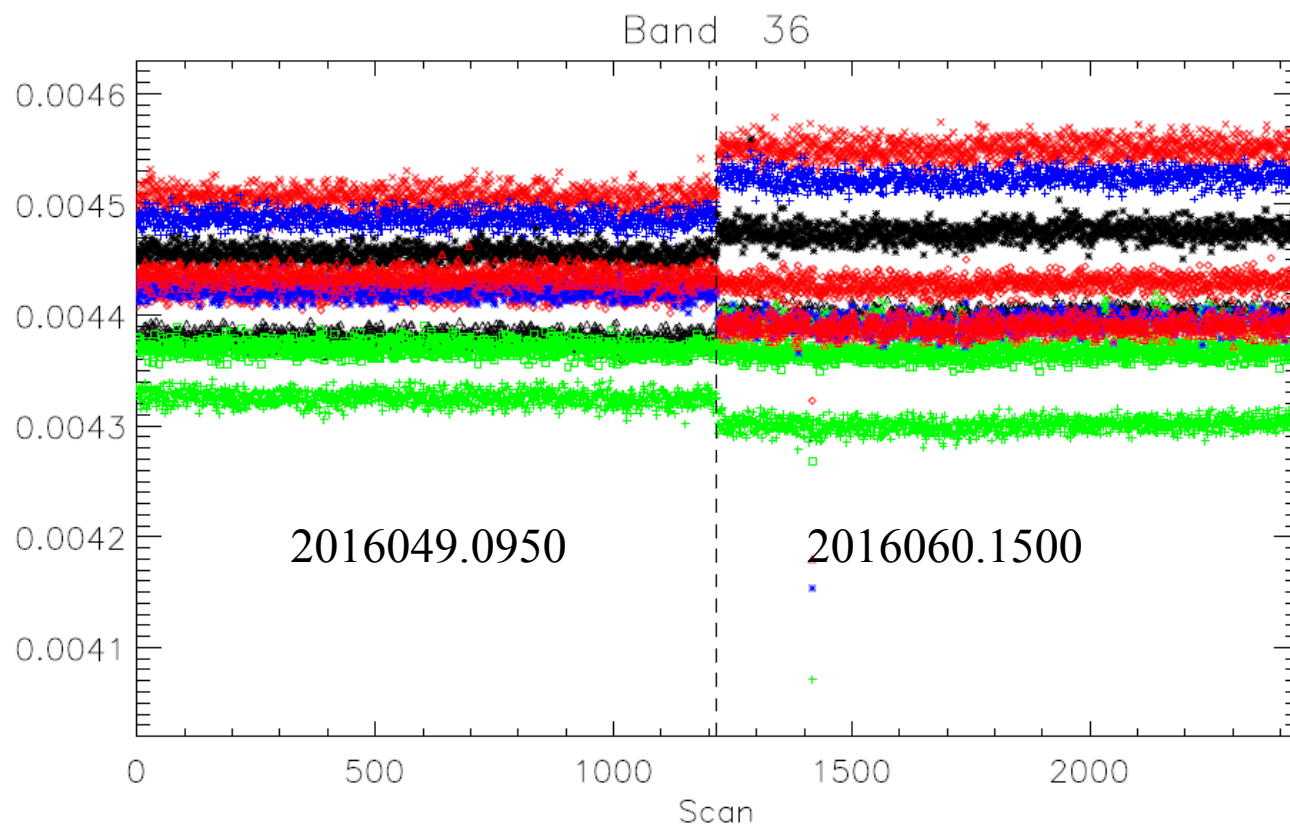
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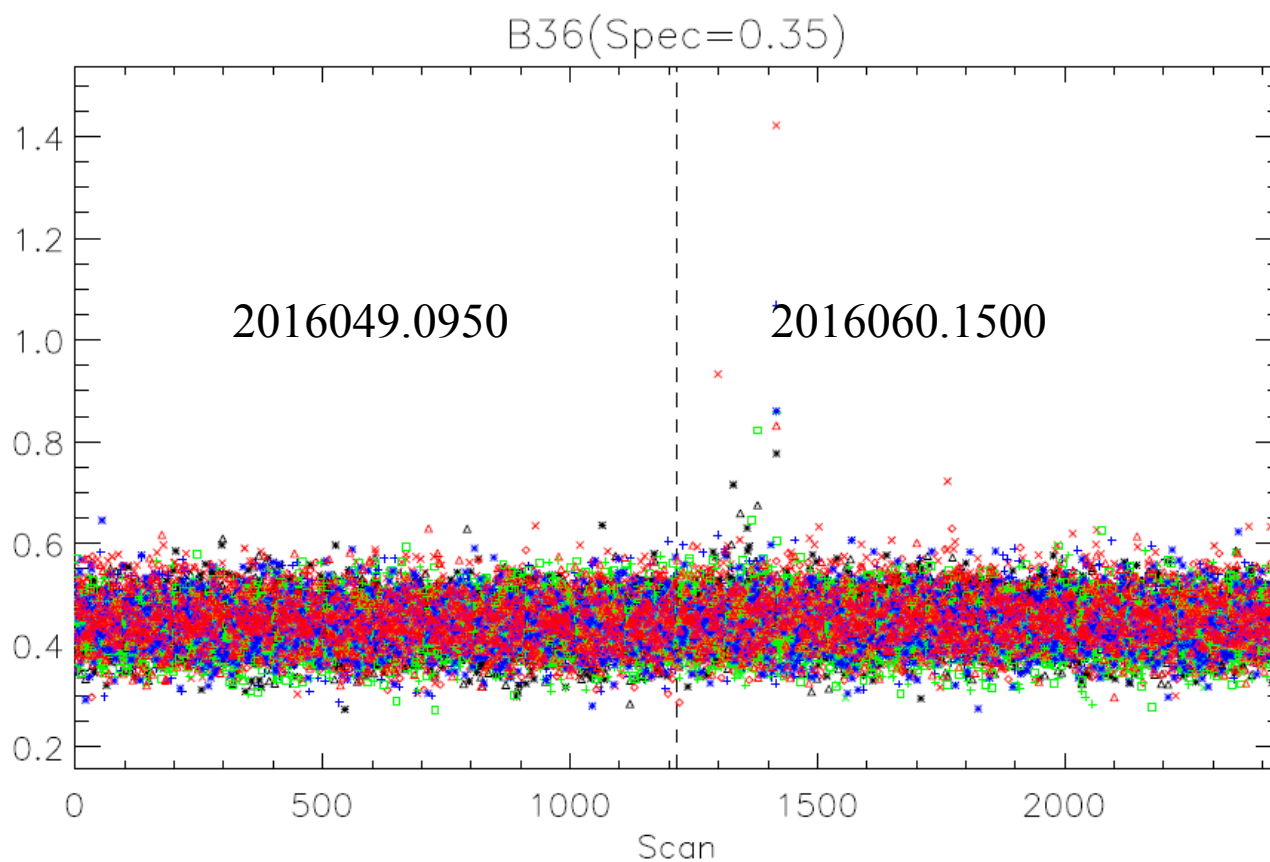


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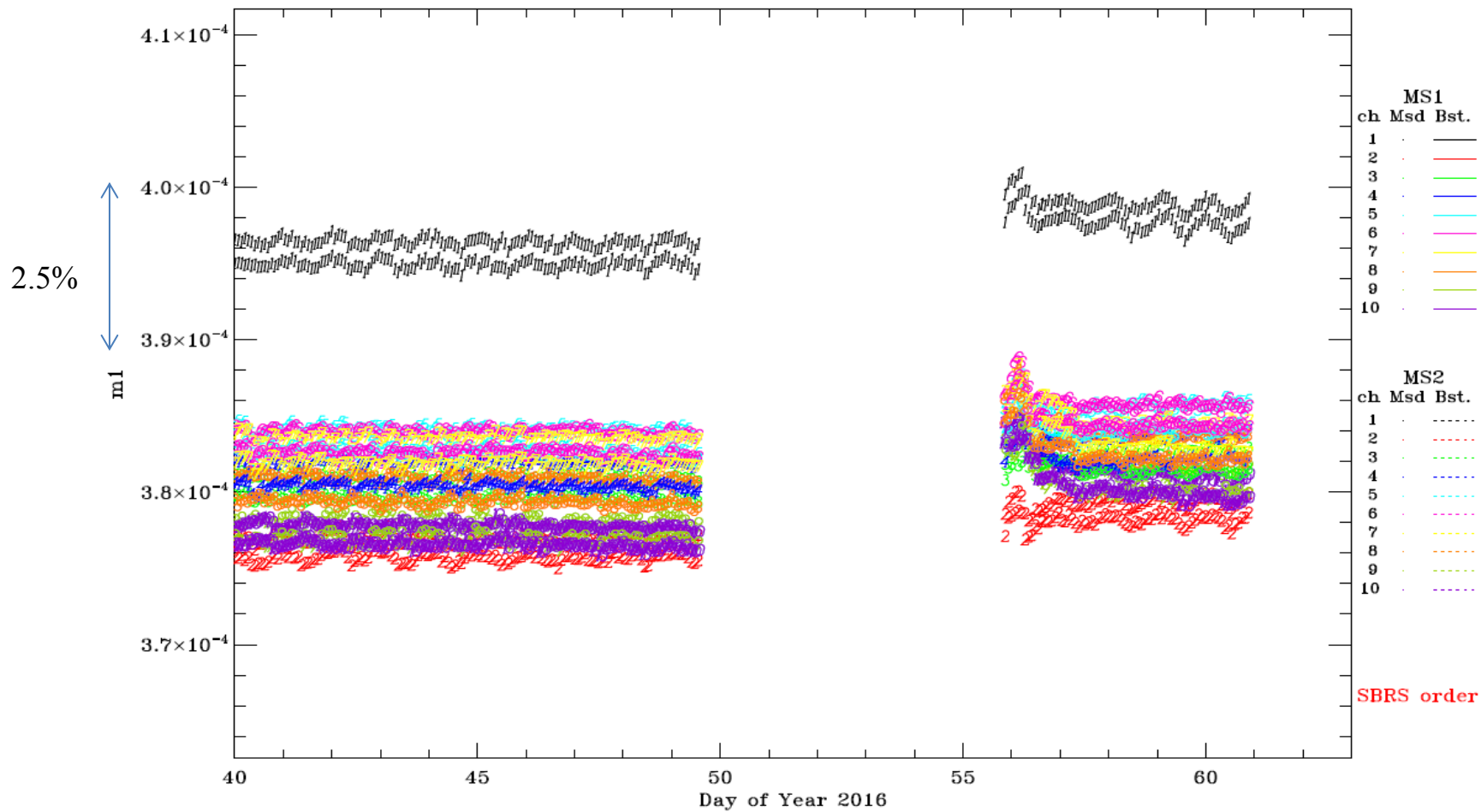
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RSB gain trending



Daily TERRA m1 Trending – Band 1 Subframe 3

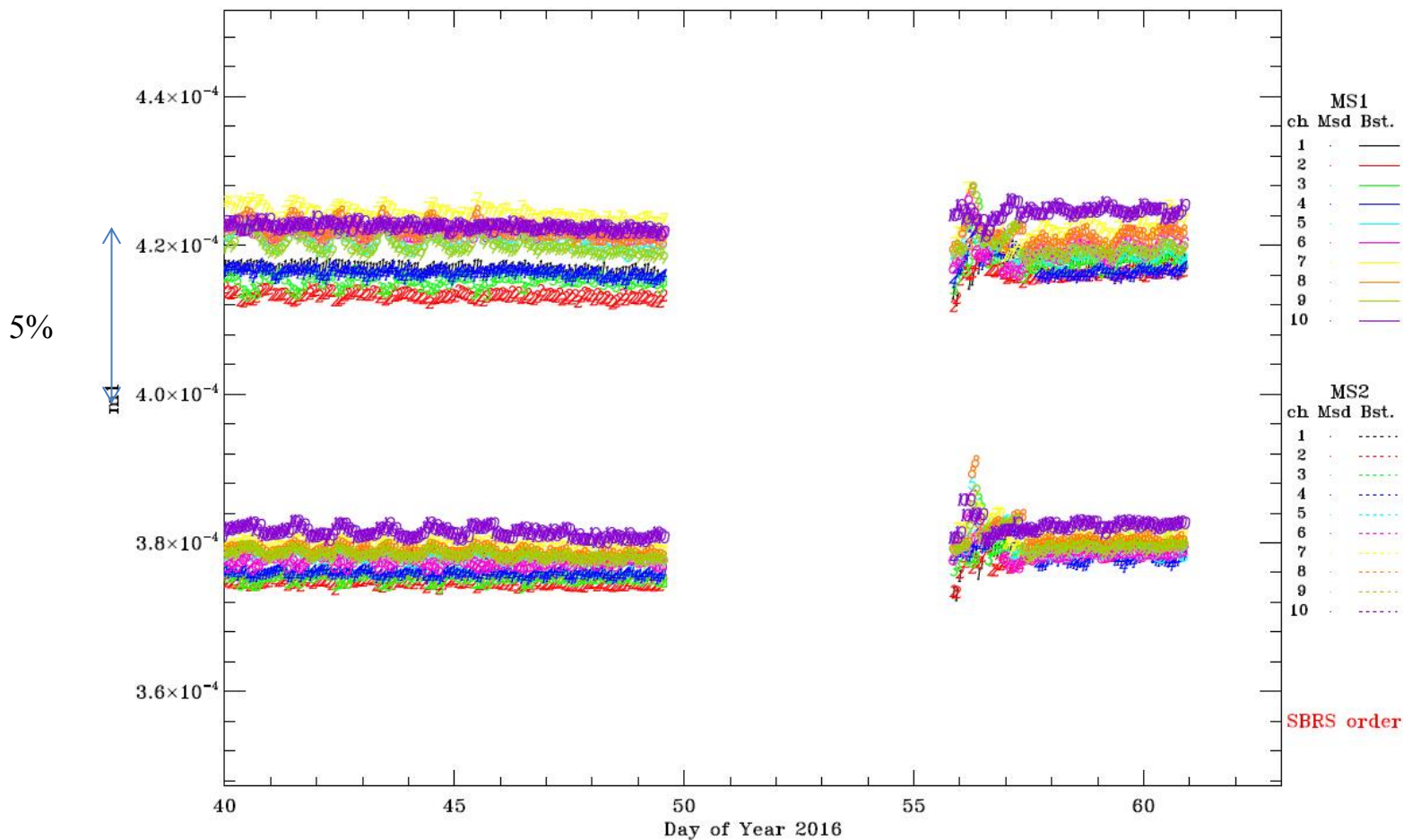




RSB gain trending



Daily TERRA m1 Trending – Band 3 Subframe 1

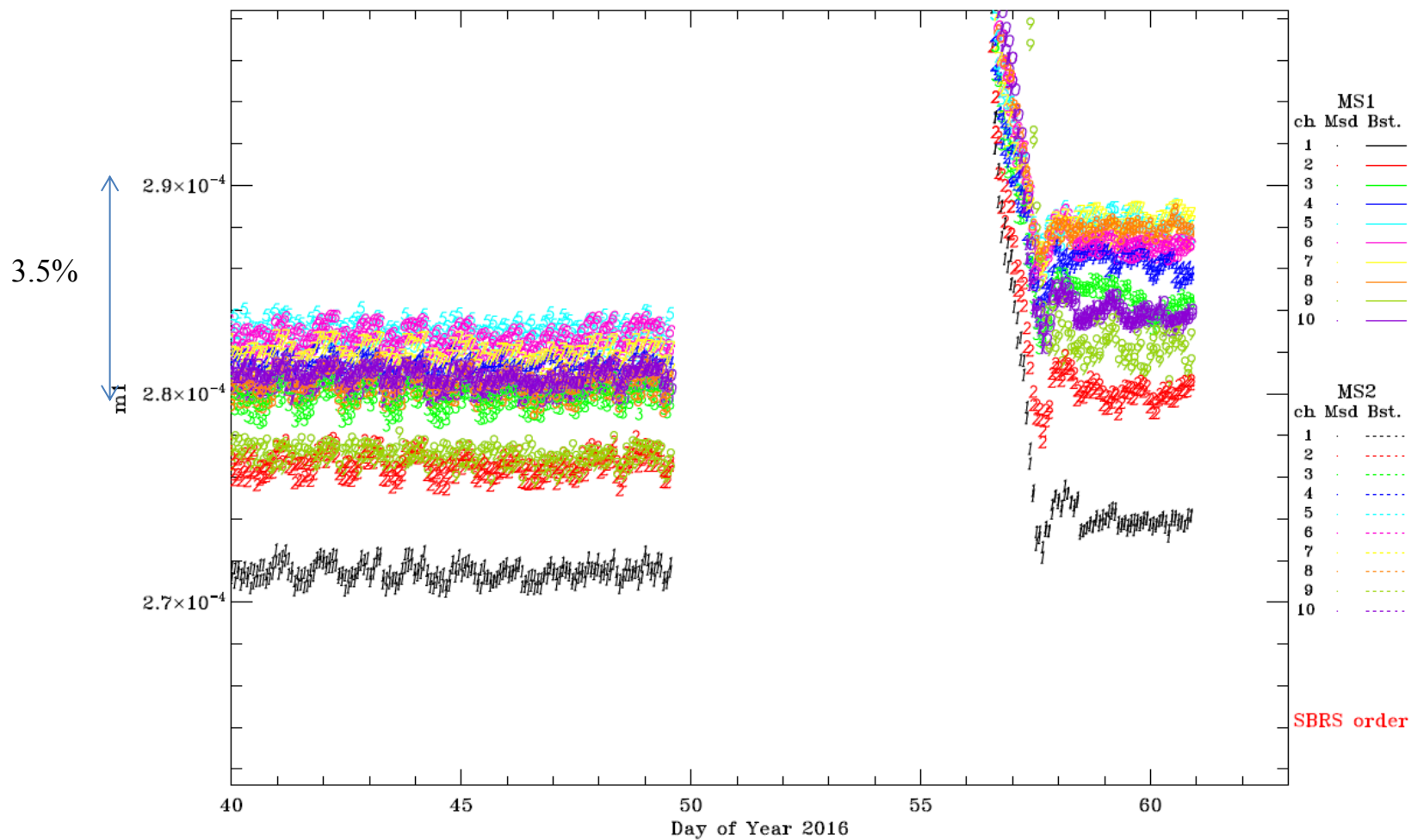




RSB gain trending

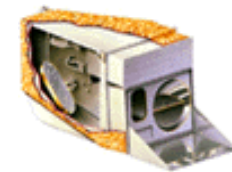


Daily TERRA m1 Trending – Band 6 Subframe 1

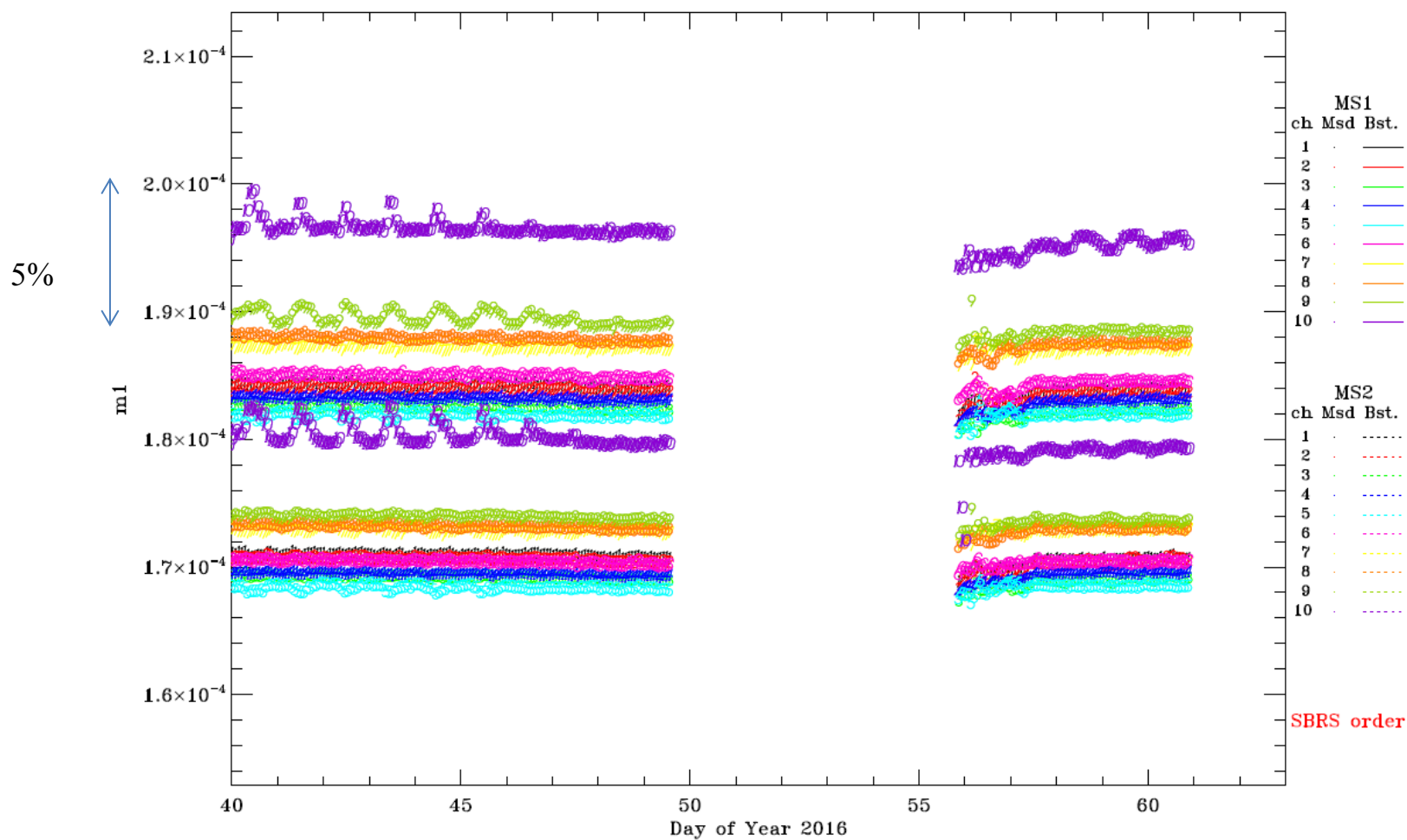




RSB gain trending



Daily TERRA m1 Trending – Band 8 Subframe 1





RSB gain trending



Daily TERRA m1 Trending – Band 17 Subframe 1

