

MODIS IOT Weekly Report

Mission Operations Days: 2000/051 to 2000/057

February 19, 2000 20:00:00 GMT to February 26, 2000 20:00:00 GMT

Terra Spacecraft and MODIS Instrument Status:

Terra (AM-1) is in Normal Mode

MODIS is in Science Mode

MODIS has no known Anomalies

Blackbody	On	Nominal
Calibration Electronics	On	Nominal
Control Processor	B On; A off	Nominal
Door: Nadir	Unlatched, open	Nominal
Space View	Unlatched, open	Nominal
Solar Diffuser	Unlatched, closed	Nominal
FDDI Formatter	On	Nominal
FIFO Memory	On	Nominal
Format Processor	On	Nominal
PC FPA	On	Nominal
Power Supply: 1	On	Nominal
2	Off	Nominal
PV FPAs: VIS	On	Nominal
NIR	On	Nominal
SMIR	On	Nominal
LWIR	On	Nominal
Radiative Cooler:		
Outgas Heaters	Off	Nominal
LWIR FPA Heater	On	Nominal
SMIR FPA Heater	On	Nominal
Scan Assembly	On	Nominal
SDSM	Off	Nominal
SRCA	Off	Nominal
Survival Heaters: PS1	Enabled	Nominal
PS2	Enabled	Nominal
Timing Generator	A On, B Off	Nominal
Flight Software	Rev BD	Nominal
Inhibit Ids Set	None	Nominal
TMONs enabled	66,67	Nominal

This Week's Completed MODIS Activities:

Saturday, February 19, 2000

050/20:45:43 Real-time -- Set BB duty cycle to 100%

050/21:12:22 ATC -- OA16: SD/SDSM Screened

Sunday, February 20, 2000

051/03:46:55 ATC -- OA16: SD/SDSM Screened  
051/08:42:51 ATC -- OA16: SD/SDSM Screened  
051/14:00:00 ATC -- Sector shift to -3072, BB at 315K (EDS ~ 5 minutes)  
051/14:35:24 Real-time -- Set BB duty cycle to 33%  
051/14:36:18 Real-time -- Set BB temp to 290K  
051/15:17:25 ATC -- OA15: SD/SDSM Open  
051/20:13:27 ATC -- OA16: SD/SDSM Screened (SSR buffer disables, no data)  
051/21:19 Real-time -- SMIR-A Vdet Sweeps, Itwk = 100, Vdet 207 - 231, by 1  
051/21:36 Real-time -- SMIR-A Vdet Sweeps, Itwk = 110, Vdet 207 - 231, by 1  
051/21:51 Real-time -- Reset SMIR-A default values, (Itwk = 79, VDET = 190)  
051/22:07 Real-time -- Set Formatter to Test packets for 5 minutes

Monday, February 21<sup>st</sup>, 2000

052/02:48:27 ATC -- OA16: SD/SDSM Screened  
052/09:23:27 ATC -- OA15: SD/SDSM Open  
052/10:00 Bit Flip Investigation begins, MODIS OBC Activities suspended.  
052/10:24:00 Real-time -- Enable Formatter Test Data Packets (Bit-Flip Investigation)  
052/12:12 ATC -- Formatter Night -> Day -> Night -> Day -> Night (6 minutes)  
(Bit-Flip Investigation)  
052/16:35:32 Real-time -- Return Formatter to Normal packets

Tuesday, February 22<sup>nd</sup>, 2000

053/01:05 Bit Flip Investigation ends, MODIS OBC Activities resumed.  
053/03:29:42 ATC -- OA16: SD/SDSM Screened  
053/07:30:38 ATC -- Moved Formatter to Night up by 16:37 to support sector rotation  
053/08:20:00 ATC -- Moved Formatter to Day up by 16:37 to support sector rotation  
053/08:25:47 - 08:37:35 ATC -- Expedited Data Service  
053/08:25:51 ATC -- PV DCR Off  
053/08:25:53 ATC -- PC DCR Off  
053/08:25:55 ATC -- Sector Rotation to -3400  
053/08:25:57 ATC -- OA16: SD/SDSM Screened  
053/08:37:27 ATC -- Sector Rotation to 0  
053/08:37:29 ATC -- PC DCR On  
053/08:37:31 ATC -- PV DCR On  
053/09:09:23 ATC -- Moved Formatter to Night up by 16:37 to support sector rotation  
053/13:22:12 ATC -- OA15: SD/SDSM Open  
053/14:42:55 - 14:54:30 Real-time -- Ecal Sweeps (Part 1: NSTEP 20/20/20/8)  
053/14:54:48 - 15:45:19 Real-time -- Ecal Sweeps (Part 2: NSTEP 18/18/18/6)  
053/18:18:27 ATC -- OA16: SD/SDSM Screened  
053/19:29:50 - 19:41:37 Real-time -- Ecal Sweeps (Part 3: NSTEP 22/22/22/10)  
053/20:56 Real-time -- Vdet Sweeps (LWIR FPA Off)  
053/23:14:49 ATC -- OA16: SD/SDSM Screened

Wednesday, February 23<sup>rd</sup>, 2000

054/04:11:23 ATC -- OA15: SD/SDSM Open  
054/09:07:57 ATC -- OA16: SD/SDSM Screened  
054/13:36:07 - 13:43:21 -- Real-time VDET sweeps(LWIR, Itwk=79)

054/13:45:35 – 13:52:30 -- Real-time VDET sweeps(LWIR, Itwk=85)  
054/14:04:31 ATC -- OA16: SD/SDSM Screened  
054/14:26:50 – 14:33:45 -- Real-time VDET sweeps(LWIR, Itwk=90)  
054/14:36:06 – 14:41:16 -- Real-time VDET sweeps(LWIR, Itwk=95)  
054/14:41:46 – 14:42:36 -- Real-time VDET back to nominal (Itwk=79)  
054/15:20:28 – 15:21:22 -- Real-time SMIR-B turned on  
054/15:21:49 - 15:28:55 -- Real-time VDET sweeps(SMIR-B, Itwk=79)  
054/15:30:52 – 15:37:47 -- Real-time VDET sweeps(SMIR-B, Itwk=90)  
054/15:55:13 – 16:02:07 -- Real-time VDET sweeps(SMIR-B, Itwk=100)  
054/16:04:43 – 16:11:28 -- Real-time VDET sweeps(SMIR-B, Itwk=110)  
054/16:11:44 – 16:12:24 -- Real-time VDET back to nominal (Itwk=79)  
054/16:12:38 – 16:13:32 -- Real-time SMIR-A turned on  
054/19:01:05 ATC -- OA15: SD/SDSM Open

Thursday, February 24<sup>th</sup>, 2000

055/01:33:20 ATC – OA16: SD/SDSM Screened Double  
055/08:08:46 ATC – OA16: SD/SDSM Screened Double  
055/14:44:11 ATC – OA15: SD/SDSM Open Double  
055/15:27:00 Real-time -- OPEN NADIR APERTURE DOOR (Earth View Data!)  
055/15:30:00 Real-time -- Dump door table  
055/20:04:45 – 20:13:14 Real-time -- SMIR VDET sweeps (Itwk=125)  
055/20:15:17 – 20:23:18 Real-time -- SMIR VDET sweeps (Itwk=155)  
055/20:23:41 – 20:31:37 Real-time -- SMIR VDET sweeps (Itwk=140)  
055/20:32:04 – 20:40:03 Real-time -- SMIR VDET sweeps (Itwk=170)  
055/20:40:19 – 20:40:59 Real-time -- Set SMIR VDET back to nominal (Itwk=79)  
055/21:19:38 ATC – OA16: SD/SDSM Screened Double

Friday, February 25<sup>th</sup>, 2000

056/03:55:32 ATC – OA16: SD/SDSM Screened Double  
056/10:31:03 ATC – OA16: SD/SDSM Open Double  
056/17:06:34 ATC – OA16: SD/SDSM Screened Double  
056/18:39:33 Real-time -- Set BB Temp to 315K  
056/18:40:29 Real-time -- Set BB duty cycle to 100%  
056/22:00 Real-time -- Sector Rotation to –3072 for 5 minutes for viewing BB.  
056/22:05 Real-time -- Sector Rotation to 0 home position.  
056/22:06 Real-time -- Set BB Temp to 270K  
056/22:42 Real-time -- Turn off BB  
056/23:42:05 ATC – OA16: SD/SDSM Screened Double

Saturday, February 26<sup>th</sup>, 2000

057/06:17:36 ATC – OA16: SD/SDSM Open Double  
057/12:53:07 ATC – OA16: SD/SDSM Screened Double  
057/17:05 Real-time -- Set Vdet/Itwk to new nominal settings (TBD)  
057/17:06 Real-time -- Set BB temp to 315K  
057/18:20:29 – 18:28:31 Real-time -- Repeat Vdet Sweeps (Itwk 125, BB=298K)  
057/18:30:41 – 18:38:33 Real-time -- Repeat Vdet Sweeps (Itwk 155, BB=298K)  
057/18:38:54 – 18:39:37 Real-time -- Reset Itwk/Vdet to nominal (110/226)  
057/19:28:39 ATC – OA16: SD/SDSM Screened Double

This Week's Scheduled MODIS Activities Not Completed:

None.

Upcoming MODIS Events:

Saturday, February 26<sup>th</sup>, 2000

057/20:30 Real-time - - Turn off BB

Sunday, February 27<sup>th</sup>, 2000

058/02:04:11 ATC – OA15: SD/SDSM Open Double

058/08:39:42 ATC – OA16: SD/SDSM Screened Double

058/14:30(?) Real-time - - Set Itwk/Vdet to 100/220

058/14:30(?) Real-time - - Tun on BB and set to 315K

058/15:15:13 ATC – OA16: SD/SDSM Screened Double

058/18:00(?) Real-time - - Turn off BB

058/21:50:44 ATC – OA15: SD/SDSM Open Double

Monday, February 28<sup>th</sup>, 2000

059/04:26:15 ATC – OA16: SD/SDSM Screened Double

059/11:01:46 ATC – OA15: SD/SDSM Open Double

059/12:00:00 ATC – SRCA Full Radiometric

059/12:40:39 ATC – OA16: SD/SDSM Screened Double

059/14:00(?) Real-time - - Reset Itwk/Vdet to nominal values (110/226)

059/14:00(?) Real-time - - Turn on BB and set to 290K

059/15:00(?) Real-time - - Set BB duty cycle to 33%

059/22:33:56 ATC – OA16: SD/SDSM Screened Double

Tuesday, February 29<sup>th</sup>, 2000

060/03:30:34 ATC – OA16: SD/SDSM Screened Double

060/08:27:12 ATC – OA15: SD/SDSM Open Double

060/12:00:00 ATC – SRCA Full Spatial

060/15:02:43 ATC – OA16: SD/SDSM Screened Double

060/19:59:22 ATC – OA16: SD/SDSM Screened Double

Wednesday, March 1, 2000

061/06:44:57 ATC – SRCA Full Spectral, 30W part I

061/08:39:41 ATC – SRCA Full Spectral, 30W part II

061/10:02:06 ATC – SRCA Full Spectral, 10W part I

061/11:57:26 ATC – SRCA Full Spectral, 10W part II

MODIS Anomalies:

At 2000/051 08:21:25 MOD\_VR\_PVSM\_P5VD6\_12 exceeded its yellow low limit with a value of 4.61 for one 65 second cycle.

General Instrument Comments:

MODIS is in Science Mode on the A-side with the SVD and NAD open. Functional checkout of MODIS is complete and was successful. All mechanisms behaved nominally.

First light occurred at 2000/055/15:27:09

MODIS Telemetry Trends:

Telemetry is nominal.

Non-MODIS Significant Events:

MISR opened their covers on 2000/055 and all went nominally.  
CERES successfully opened both of their covers on 2000/056.  
MOPITT is schedule to open their covers on Monday, 2000/059.

The following is the as-run burn schedule which placed Terra into her final orbit (the times are in GMT). Our current orbit is 708km x 692km. FDS did such a great job that another orbit attainment burn will not be required for about 2 months (around the time of the inclination maneuver). Therefore, we'll be skipping the March monthly orbit attainment burn. Kudos to FDS.

Burn | Start Time | End Time | Duration(sec)

1	Feb 10 2000 21:15:43.030	Feb 10 2000 21:16:43.030	60.000 (complete)
2	Feb 12 2000 20:43:22.876	Feb 12 2000 20:45:52.876	150.000 (complete)
3	Feb 14 2000 20:12:16.920	Feb 14 2000 20:17:16.920	300.000 (complete)
4	Feb 16 2000 19:45:32.361	Feb 16 2000 19:50:52.361	320.000 (complete)
5	Feb 18 2000 21:52:11.699	Feb 18 2000 21:57:31.699	320.000 (complete)
6	Feb 20 2000 19:03:07.853	Feb 20 2000 19:08:27.853	320.000 (complete)
7	Feb 22 2000 18:00:01.007	Feb 22 2000 18:04:41.107	280.000 (complete)
8	Feb 23 2000 21:10:21.094	Feb 24 2000 21:12:11.094	110.000 (complete)

Getting data through the system and products delivered to MCST continues to be a major problem and is the critical path for characterization of MODIS.

EDOS has installed their bit flip patch Friday evening (2000/057) and initial indications are that this has greatly increased EDOS ability to process MODIS data. Thanks EDOS!

Limited Life Item Status:

All limited life items are well within lifetime ranges. The precise statistics for each item have been received from LMMS/Valley Forge and will be incorporated next week.