

MODIS IOT Weekly Report

Mission Operations Days: 2000/281 to 2000/287

October 6, 2000 20:00:00 GMT to October 13, 2000 20:00:00 GMT

Terra Spacecraft and MODIS Instrument Status:

Terra (AM-1) is in Normal Mode

MODIS is in Science Mode

Blackbody	A On; B Off	Nominal
Calibration Electronics	A On; B Off	Nominal
Control Processor	A On; B Off	Nominal
Door: Nadir	Unlatched, open	Nominal
Space View	Unlatched, open	Nominal
Solar Diffuser	Unlatched, closed	Nominal
FDDI Formatter	A On; B off	Nominal
FIFO Memory	1 & 2 On; 3 & 4 Off	Nominal
Format Processor	A On; B off	Nominal
PC FPA	A On	Nominal
Power Supply:1	On	Nominal
2	Off	Nominal
PV FPAs: VIS	A On	Nominal
NIR	A On	Nominal
SMIR	A On	Nominal
LWIR	A On	Nominal
Radiative Cooler:		
Outgas Heaters	Off	Nominal
LWIR FPA Heater	On	Nominal
SMIR FPA Heater	Off	Nominal
Scan Assembly	A On; B off	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 + 2 patches	Nominal
Inhibit Ids Set	None	Nominal
TMONs enabled	66, 67, 68	Nominal

This Week's Completed MODIS Activities:

Friday, October 6, 2000

None

Saturday, October 7, 2000
None

Sunday, October 8, 2000
None

Monday, October 9, 2000
None

Tuesday, October 10, 2000
None

Wednesday, October 11, 2000
None

Thursday, October 12, 2000
None

Friday, October 13, 2000
None

This Week's Scheduled MODIS Activities Not Completed:

None

Upcoming MODIS Events:

Saturday, October 14, 2000
None

Sunday, October 15, 2000
None

Monday, October 16, 2000

290/21:56:02-22:53:33 ATC SRCA Full Spatial

Tuesday, October 17, 2000

291/14:29:51 ATC Move Formatter to Night ahead by 3:23 to ensure 50/50 day/night
291/15:02:17 ATC Set Formatter to Day Rate
291/15:02:19 ATC Set SCIABNORM Flag to ABNORM
291/15:02:21 ATC PC DC Restore to OFF

291/15:02:23 ATC PV DC Restore to OFF
291/15:02:25 ATC Sector Rotation to -3072 (EA to SV and OBCs)
291/15:08:55 ATC Sector Rotation to Zero (Normal)
291/15:08:57 ATC PC DC Restore to ON
291/15:08:59 ATC PV DC Restore to ON
291/15:09:01 ATC Set SCIABNORM Flag to NORM
291/15:09:03 ATC Set Formatter to Night Rate
291/15:26:03 ATC Move Formatter to Day later by 3:23 to ensure 50/50 day/night

291/15:?? Real-Time Set SMIR Itwk/Vdet to 79/110

291/16:08:45 ATC Move Formatter to Night ahead by 3:23 to ensure 50/50 day/night
291/16:41:37 ATC Set Formatter to Day Rate
291/16:41:39 ATC Set SCIABNORM Flag to ABNORM
291/16:41:41 ATC PC DC Restore to OFF
291/16:41:43 ATC PV DC Restore to OFF
291/16:41:45 ATC Sector Rotation to -3072 (EA to SV and OBCs)
291/16:48:15 ATC Sector Rotation to Zero (Normal)
291/16:48:17 ATC PC DC Restore to ON
291/16:48:19 ATC PV DC Restore to ON
291/16:48:21 ATC Set SCIABNORM Flag to NORM
291/16:48:23 ATC Set Formatter to Night Rate
291/17:04:56 ATC Move Formatter to Day later by 3:23 to ensure 50/50 day/night

291/17:?? Real-Time Set SMIR Itwk/Vdet to 110/226

Wednesday, October 18, 2000

292/19:?? Real-Time Set SMIR Itwk/Vdet to 79/110
292/20:05:00 ATC Blackbody to 315K
292/20:05:30 ATC Blackbody duty cycle to FULL

Thursday, October 19, 2000

293/03:00:00 ATC Blackbody to 270K
293/03:00:30 ATC Blackbody duty cycle to THIRD
293/22:00:00 ATC Blackbody to 290K

Friday, October 20, 2000

294/13:?? Real-Time Set SMIR Itwk/Vdet to 110/226

Maneuvers:

Two Roll maneuvers are planned for October 17th. The first maneuver will be roll the S/C - 12.5496 degrees for data collection from 291/15:02:25 to 291/15:08:55 with SMIR Itwk/Vdet set to 110/226. The second maneuver will roll the S/C -11.8642 degrees for data collection from 16:41:45 to 16:48:15 with SMIR Itwk/Vdet set to 79/110.

MODIS Anomalies:

Continued monitoring for formatter errors and loss of cooler margin.

Attached to this report is a spreadsheet (FR_anomaly_log_101300.xls) listing the times, addresses, formatter temperature, satellite ground track, and space craft day/night position for each of the formatter events that have occurred since DOY 256.

General Instrument Comments:

MODIS is in Science Mode on the A-side with the SVD and NAD open, operating with the Formatter Resolution Flight Software Patches.

MODIS Telemetry Trends:

The Radiative Cooler intermediate stage temperature has slowly been increasing since approximately day 240. During this time the LWIR focal plane heater margin has been decreasing. The IOT is continuing to trend these telemetry mnemonics.

Non-MODIS Significant Events:

There have been indications that Solar Array Circuit #10 failed at approximately 268/15:07:20. Terra still has a power margin so this failure should not impact operations.

Limited Life Item Status:

SRCA 10W Lamp #1: 173.5 of 500 hours
SRCA 10W Lamp #2: 135.9 of 500 hours
SRCA 10W Lamp #3: 145.1 of 500 hours
SRCA 10W Lamp #4: 61.5 of 500 hours

SRCA 1W Lamp #1: 556.1 of 4000 hours
SRCA 1W Lamp #2: 276.3 of 4000 hours

Solar Diffuser Door: 1429 of 3022 Movements

Nadir Aperture Door: 532 of 1316 Movements
Space View Door: 437 of 1316 Movements