

ICESat-2 PROJECT SCIENCE OFFICE REPORT

Monday, February 11, 2019 thru Sunday, February 17, 2019

RGTs spanned: 681-787

Cycle 2

Items of Note:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. ASAS passed the full suite of PGE acceptance reviews, and ASAS v5.0 was approved for SIPS operations beginning on Feb 18. The science team is excited to dive into release 205 data products this week (ATL03, ATL04/09, and ATL06)!

****ELEMENT DETAILS BELOW****

CAMS/POD/PPD:

CAMS: CAMS continues to monitor and screen for laser conjunction events in MW023. A split-load was created this week to accommodate the moving of the maneuver from February 21, 2019 (MW024) to February 20, 2019 (MW023). CAMS reported a laser conjunction with 43938 (ALE-1 – launched 2019) occurring on February 14, 2019. The conjunction had a PI of 0.271% and would have required setting the laser to arm. The event went away after a final screening on February 13, 2019 using the updated ICESat-2 post maneuver ephemeris and no action was required. CAMS is planning for MW024.

CAMS continues delivery of the corrected rapid ANC05 products to SIPS.

POD: POD continues with nominal operations. Final POD has been completed through GPS week 2037, and intermediate POD has been completed through GPS week 2039. All results look nominal.

POD has also updated the code to correct ANC05 files to allow for application of multiple calibration solutions to a single ANC05 file. This will be important when calibrating ANC05 files that span a yaw-flip maneuver, as the observed roll/pitch biases differ when flying forward versus backwards.

PPD: This past week PPD has been working on automation of detecting periods that the attitude/pointing could be degraded. These degrades occur for several reasons, including time tag issues, data gaps, etc. We have also continued analysis on the LRS stellar-side centroiding errors by characterizing the contributors (magnitude, color index, FOV position).

ISF:

All ATLAS housekeeping data is nominal

Laser 2 is firing at energy level 4 and in science mode

SADA in Airplane Mode

Spacecraft orientation : -X

Mission Planning:

MW23 ATS is loaded to the spacecraft and currently operating.

MW24 is being planned

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Activities during the past week:

ATS activities:

All ATLAS and pointing activities were routine and completed as planned

Real-time activities

Executed standing CAR 91 to clear SBC errors.

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Upcoming activities:

MW23 scheduled activities in the ATS: MW23 Activities are attached

Other Near-term activities:

RIONet Mail server moving to IONet - Testing with ITOS-2

PDB E.0.1 - To be delivered next week. ISF will perform regression testing on dev servers and FLATLAS

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Notes/Issues:

1. ISF server patching complete

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LTO Schedule:

All items remain on schedule except

PDB E.0.1 install in operations to be coordinated with the MOC.

SIPS:

- The SIPS is operating nominally:
 - Ingested and distributed Level 0 data to the ISF.
 - Generated L1A and L1B products and distributed ATLO2s to the ISF, POD, and SCF.

- Distributed ATL01s via special request to the SCF.
- SIPS Build 4.0 (with ASAS V5.0) went operational on 02/18/2019
 - ATL01 and ATL02 products were reprocessed as Release 202 from Oct. 14, 2018 until real-time.
 - Reprocessed Rel. 202 ATL02 products are being distributed to the SCF and the POD.
 - The ATL02 products from Dec. 11 onwards have the VC5 start tracker parameters.
 - Started production of Release 205 (final) ATL03, ATL04, ATL06, and ATL09 products.

SIPS Schedule:

SIPS Build 4.0 was delivered to OPS on 2/18/2019.

ASAS:

ASAS passed the full suite of PGE acceptance reviews.

ASAS v5.0 was approved for SIPS operations beginning on Feb 18.

The internal ASAS v5.0.1 snapshot was captured and ASAS will begin running test products this week.

ASAS developers have resumed working the high priority items as discussed with individual ATBD leads.

SCF:

The SCF is operating nominally. All data from SIPS has been ingested and distributed, and preparation to receive new data for releases 202, 205, and 206 has begun. A file listing the current SCF data holdings is attached.

* Data Management Scripts -- set up environment to test Python 3.5 version of scripts.

* Subsetter -- preparing to put updated version into operations, which will fix indexing issue on subsetted ATL03 (expect to do this on 2/19); continuing to test Python 3.5 version of the code.

* Visualizer -- working on incorporating any changes necessary for ASAS v5.0 in preparation for next release.

ATL02:

After consulting with J.P. Swinski, we understand that the discrepancies between the observed boundaries of the downlink band and the values reported in the telemetry are due to corrections that are added in flight software to the downlink band offset and downlink band width. These corrections are added before the values are input to the PCE hardware, to correct for hardware behavior that would otherwise cause an incorrect band to be selected. Such corrections apparently are not applied to the range window data. J.P. has promised documentation of these corrections. We are considering removing the corrections from the downlink band data before reporting it out of ATL02.

The laser team reports that all the measurements that can be done on FLT 1 (which has displayed behavior suggesting a slab fracture during lifetest) without removing anything has been done. Data are still consistent with a slab fracture, but the etalon-like behavior that sometimes appears in slab fractures is absent. The next step is to remove the lid (after taking a sample of the air inside the box) and perform an inspection without disturbing any of the hardware inside the box.

Investigation continues on:

- Possible afterpulsing evident under very strong return conditions
- Power drop in Flight 1 laser (in laboratory life test)
- Return sensitivity

ATL03:

The ATL03 group successfully completed the ASAS v5 acceptance review on 2/15. The list of open issues is shrinking considerably, and a new version of the ATBD will be posted to public-facing websites shortly.

ISF ACTIVITIES MISSION WEEK 023:

* Not in science mode

^ Could affect science data quality

^ 2019/045:01:32:14.0000 AMCS Cal for 2 minutes over open ocean

^ 2019/045:06:13:48.0000 AMCS Cal for 2 minutes over open ocean

2019/045:07:45:23.0000 OCEANscan (22 minutes)

^ 2019/045:09:22:22.0000 AMCS Cal for 2 minutes over open ocean

* 2019/045:12:51:49.0000 TEP data collection for 3 minutes

* 2019/045:14:26:07.0000 TEP data collection for 3 minutes

* 2019/045:16:00:24.0000 TEP data collection for 3 minutes

* 2019/045:17:34:42.0000 TEP data collection for 3 minutes

* 2019/045:19:08:59.0000 TEP data collection for 3 minutes

2019/045:19:32:39.0000 OCEANscan (22 minutes)

^ 2019/045:20:00:00.0000 Stellar centroid window dump for 90 minutes (no stellar centroids)

* 2019/045:22:17:34.0000 TEP data collection for 3 minutes

* 2019/045:23:51:51.0000 TEP data collection for 3 minutes

^ 2019/046:01:00:00.0000 Stellar centroid image dump for 90 minutes (no stellar centroids)

^ 2019/046:05:48:08.0000 AMCS Cal for 2 minutes over open ocean

2019/046:07:19:44.0000 OCEANscan (22 minutes)

^ 2019/046:08:56:43.0000 AMCS Cal for 2 minutes over open ocean

2019/046:10:20:32.0000 RTWscan (90 minutes)

* 2019/046:12:28:52.0000 TEP data collection for 3 minutes

* 2019/046:14:00:27.0000 TEP data collection for 3 minutes

* 2019/046:15:34:45.0000 TEP data collection for 3 minutes

* 2019/046:17:09:02.0000 TEP data collection for 3 minutes

* 2019/046:18:43:20.0000 TEP data collection for 3 minutes
2019/046:19:06:59.0000 OCEANscan (22 minutes)
* 2019/046:20:17:37.0000 TEP data collection for 3 minutes
* 2019/046:21:51:54.0000 TEP data collection for 3 minutes
* 2019/046:23:26:12.0000 TEP data collection for 3 minutes
^ 2019/047:00:40:55.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/047:05:35:33.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/047:06:56:46.0000 AMCS Cal for 2 minutes over open ocean
2019/047:08:28:22.0000 OCEANscan (22 minutes)
* 2019/047:13:34:48.0000 TEP data collection for 3 minutes
* 2019/047:15:09:05.0000 TEP data collection for 3 minutes
* 2019/047:16:43:23.0000 TEP data collection for 3 minutes
* 2019/047:18:17:40.0000 TEP data collection for 3 minutes
* 2019/047:19:51:58.0000 TEP data collection for 3 minutes
2019/047:20:15:37.0000 OCEANscan (22 minutes)
* 2019/047:21:26:15.0000 TEP data collection for 3 minutes
* 2019/047:23:00:32.0000 TEP data collection for 3 minutes
^ 2019/048:00:15:15.0000 AMCS Cal for 2 minutes over open ocean
* 2019/048:00:34:49.0000 TEP data collection for 3 minutes
^ 2019/048:06:31:07.0000 AMCS Cal for 2 minutes over open ocean
2019/048:08:02:42.0000 OCEANscan (22 minutes)
^ 2019/048:09:38:43.0000 AMCS Cal for 2 minutes over open ocean
* 2019/048:13:09:08.0000 TEP data collection for 3 minutes
* 2019/048:14:43:26.0000 TEP data collection for 3 minutes
* 2019/048:16:17:43.0000 TEP data collection for 3 minutes
* 2019/048:17:52:01.0000 TEP data collection for 3 minutes
* 2019/048:19:26:18.0000 TEP data collection for 3 minutes
2019/048:19:49:57.0000 OCEANscan (22 minutes)
* 2019/048:21:00:35.0000 TEP data collection for 3 minutes
* 2019/048:22:34:53.0000 TEP data collection for 3 minutes
^ 2019/048:23:49:36.0000 AMCS Cal for 2 minutes over open ocean
* 2019/049:00:09:10.0000 TEP data collection for 3 minutes
^ 2019/049:01:23:53.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/049:06:05:27.0000 AMCS Cal for 2 minutes over open ocean
2019/049:07:37:03.0000 OCEANscan (22 minutes)
^ 2019/049:09:14:02.0000 AMCS Cal for 2 minutes over open ocean
* 2019/049:12:43:29.0000 TEP data collection for 3 minutes
* 2019/049:14:17:46.0000 TEP data collection for 3 minutes
* 2019/049:15:52:04.0000 TEP data collection for 3 minutes
* 2019/049:17:26:21.0000 TEP data collection for 3 minutes
* 2019/049:19:00:38.0000 TEP data collection for 3 minutes
2019/049:19:24:18.0000 OCEANscan (22 minutes)
* 2019/049:20:34:56.0000 TEP data collection for 3 minutes
* 2019/049:22:09:13.0000 TEP data collection for 3 minutes

* 2019/049:23:43:30.0000 TEP data collection for 3 minutes
^ 2019/050:00:58:14.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/050:05:39:47.0000 AMCS Cal for 2 minutes over open ocean
2019/050:07:11:23.0000 OCEANscan (22 minutes)
^ 2019/050:08:48:22.0000 AMCS Cal for 2 minutes over open ocean
* 2019/050:12:19:21.0000 TEP data collection for 3 minutes
* 2019/050:13:52:06.0000 TEP data collection for 3 minutes
^ 2019/050:14:01:21.0000 Laser image dump for 6 minutes over Antarctica during day
* 2019/050:15:26:24.0000 TEP data collection for 3 minutes
* 2019/050:17:00:41.0000 TEP data collection for 3 minutes
* 2019/050:18:34:59.0000 TEP data collection for 3 minutes
2019/050:18:58:38.0000 OCEANscan (22 minutes)
* 2019/050:20:09:16.0000 TEP data collection for 3 minutes
* 2019/050:21:43:33.0000 TEP data collection for 3 minutes
* 2019/050:23:17:50.0000 TEP data collection for 3 minutes
^ 2019/051:00:32:34.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/051:03:18:49.0000 DMU011 for 60 minutes
^ 2019/051:05:25:11.0000 AMCS Cal for 2 minutes over open ocean
2019/051:06:45:43.0000 OCEANscan (22 minutes)
^ 2019/051:08:22:42.0000 AMCS Cal for 2 minutes over open ocean
2019/051:09:46:31.0000 RTWscan (90 minutes)
* 2019/051:13:26:26.0000 TEP data collection for 3 minutes
* 2019/051:15:00:44.0000 TEP data collection for 3 minutes
* 2019/051:16:35:01.0000 TEP data collection for 3 minutes
* 2019/051:18:09:19.0000 TEP data collection for 3 minutes
* 2019/051:19:43:36.0000 TEP data collection for 3 minutes
2019/051:20:07:15.0000 OCEANscan (22 minutes)
* 2019/051:21:17:53.0000 TEP data collection for 3 minutes
* 2019/051:22:52:10.0000 TEP data collection for 3 minutes