

Day 317 (11/13/19)

Status Summary:

OCAMS, OTES, OVIRS, and REXIS are powered on. OD201 is on board. Last week, we wrapped up the L+“36” calibrations: OCAMS absolute color, OCAMS nonlinearity (see below), and OVIRS solar. We are now in Orbital R Global Mapping, where the four powered-on instruments collect data over the course of a 6-hour ATF that is run three times per day.

We did not have an HGA pass yesterday and will not have one tomorrow (this was expected due to planned network outages). The partitions will fill to about 50% tomorrow. However, we have three-hour passes Friday and through the weekend. All OpNavs, and all OTES and REXIS data from the first two days of Global Mapping, have been received on the ground. The REXIS team sees a possible gap in their data but it may be stuck in processing. Reminder: the downlink priority has been reverted such that spectrometer data come down before OCAMS data.

Christian d’Aubigny and Dathon Golish showed independent analyses of the results of the OCAMS nonlinearity calibration, which was performed for all three cameras. The MapCam data show that the longest exposure time did not meet the camera’s upper nonlinearity limit—i.e., we did not capture the high DN MapCam data that were the primary goal of this activity. The reason was found to be that the lamp image used to design the calibration was actually taken by MapCam’s B side, which has a different LED and different optical path. Although this information is contained indirectly in the image header, it is not explicit or obvious. The OCAMS team will request for the calibration to be redone because it did not meet its objective. The high-resolution color mapping paper needs this calibration, but it is unlikely that we will be able to reschedule it on the nominal timeline of that publication. The rescheduled cal should take place as close to September 2019 as possible if we are to assess the effects of flight duration. To be discussed further offline.

Looking ahead: We will continue to run the Global Mapping ATF three times per day throughout this week, as well as collecting OpNavs as usual.

Day 319 (11/15/19)

Status Summary:

OCAMS, OTES, OVIRS, and REXIS are powered on. The partitions currently have about 2.5 days of OVIRS data and all of the OCAMS data and NavCam particle monitoring images collected thus far during Orbital R Global Mapping. NavCam OpNavs and OTES and REXIS data all have been received on the ground. We expect to make headway on the downlink of the OVIRS data starting tomorrow. OCAMS data will not start downlinking until Monday (18 November, DOY 329).

A possible single missing frame in engineering data was flagged, but this may be due to data downlinking out of order as there was no HGA pass yesterday. We do not plan to request a retransmit.

Looking ahead: Over the weekend and throughout next week, we will continue the same cadence of Global Mapping (three runs of one 6-hour ATF per day) plus OpNavs/particle monitoring as we did this week. The ATF will only run once on days where possible trim burns were scheduled; burns have been waived off. On Monday, science payloads will be powered off, and that will mark the end of REXIS activity on this mission. Other payloads will power back on for Recon B, or OpNav support in the case of OCAMS. Next week is OPIE-4 and the SSB meeting.