Mission Status Report 5

Reference Period: 16-31 Dec. 2017

sentinel-5p

→ GLOBAL AIR MONITORING FOR COPERNICUS

Mission Status

Overall

- The mission is in Phase E1 (Commissioning Phase) since 16th October 2017 and progressing nominally.

Data availability and access

- In line with the Phase E1 planning the access to Sentinel-5 Precursor products (Level 1B and Level2) is currently limited to Phase E1 support teams and algorithm developers. The PDGS Online Data Access (ODA) is used for the data dissemination.
- On 21st December the S5PVT (S5p Validation Team) received a first set of sample products (Level 1B, Level 2 and auxiliary data).

Platform

- All platform subsystems performed nominally.
- Special satellite operations were performed for the solar occultation campaign on 18th December and the third test of solar port calibration on 19th December.
- A collision manoeuvre was planned for 21st December, but the execution was finally not necessary after an update of the situation, which reduced the probability of collision below the acceptable threshold.

TROPOMI Payload

- Work is ongoing to try to reduce the occasional signal saturation that is observed in the radiance of cloudy scenes in tropical areas.
- Solar occultation measurements were executed for orbit 931 (18th December) to enable the testing of the straylight correction in the NIR band (out-of-band spectral straylight verification).

Ground Segment

- The status of both FOS and PDGS has been nominal. Routine scheduling, acquisition and processing tasks were performed without major anomalies.
- PDGS continues to plan orbit dumps only over Svalbard, yielding to some pass durations shorter than the nominal minimum length. In order to avoid a “constraint violation on the minimum X-band pass duration”, the constraint checking on the Mission Control System (MCS) has been deactivated.
- A consequence of having X-band pass durations shorter than the nominal minimum length is that there is a backlog of data to be downlinked, although this backlog is recovered during longer passes.
- Part of the orbit 960 was lost (10 minutes) due to acquisition errors.
- The downlinks on orbits 1000 and 1002 failed due to a double assignment of their orbit numbers. Measures have been put in place for avoiding the re-occurrence of this problem in future.

Level 1B / Level 2 processors

- A series of functional tests of the Level-1b/2 processing chains were performed using initial in-flight data. Whereas the overall performance of the processor components could be confirmed, a number of important optimisations of algorithm and configuration data had been identified. Corresponding modifications of the various processors were implemented in the first half of December and used for the generation of a representative set of sample products of Level-1b/2 products for the S5PVT.

Cal/Val Activities

- Validation activities started using the sample products (orbits 657-670) that the S5PVT teams received on 21st December. This product set was delivered to a large group of experts taking part in S5p Calibration and Validation activities via the CalVal Announcement of Opportunity (CalVal AO) project. The primary purpose of this delivery was to allow CalVal teams to familiarise themselves with the product formats, test data handling tools and to prepare for a CalVal workshop scheduled for 5th /6th February 2018 at ESTEC.

Outlook

- The Solar Calibration campaign - characterization of the primary sun port diffuser for variable illumination geometries - will start on 9th January 2018.