

Status of SCIAMACHY Operations

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Current Status of States

- Final flight states could not be defined before start of validation because of leftover commissioning phase (SODAP) activities.
- For validation activities a “best effort” set of states has been defined (based on simulations and first commissioning phase results)

⇒ **“Consolidated beta states”**

- Consolidated beta states active since 18 July 2002
- First analysis results show that performance is very close to nominal (more than 99% of states work as expected).
- Final flight states will probably be defined by end of this year.

Schedule Overview

- Since 18 July 2002 “quasi-nominal” operations:
 - Standard scenario with alternating limb/nadir measurements, etc.
 - Solar occultation each orbit
 - Lunar occultation typically every 2nd orbit when the moon is visible
(Note: Currently only useful data on the night side!)
 - Regular calibration measurements
- This type of operation is planned to be continued until end of November, except for certain times which are needed for remaining SODAP activities.
- Times of non-nominal operations are chosen such that the impact on validation campaigns is as low as possible.

Schedule up to now

- 18 – 25 July: Quasi-nominal operations with consolidated beta states
- 25 July – 1 August: Non-nominal decontamination (ice problem)
- Since 2 August: Quasi-nominal operations, except:
 - 28/29 August 2002:
 - SCIAMACHY off, probably due to SEU
 - Thermal stability reached again at 31 August
 - 1 –2 September:
 - Remaining SODAP tasks (nadir pointing left/right)
- Planning until end of September already delivered to ESA

Schedule until End of September

- **8 –11 September:**
 - Interruption for Envisat Orbit Control Manoeuvre and PMC software upgrade. **All instruments will be switched off completely!**
Caution: The orbit maps and files at the SOST page contain measurements for this time!
- **14 September:**
 - Remaining SODAP tasks (nadir pointing left/right)
- **23/24 September:**
 - High data rate measurements (no coadding, higher spatial resolution)
- **28/29 September (only Orbit 3033/3034):**
 - Remaining SODAP tasks (small swath, nadir pointing)
- **30 September (only Orbit 3048/3049):**
 - Remaining SODAP tasks (ASM Diffuser)

Future Planning

- Planning for October (and later) not fixed yet
- Baseline:
 - Quasi-nominal operation until 23 November
 - After that additional SODAP measurements
- Final flight states probably in December
- Next decontamination planned in December, unless required earlier
(Note: Performance of Channels 7 & 8 is degrading!)

Open Issues for SSAG

- SSAG should decide on the following issues (red = suggested baseline):
 - 1) Rare events of saturation of single readouts (<5) for nadir state N2:
 - a) Accept saturation to keep higher signal-to-noise at other times/places.
 - b) Modify timelines; use state N3 instead (smaller exposure times).
 - 2) Spurious saturation in for limb states L4/L5 at low (tropospheric) tangent altitudes:
 - a) Accept saturation to keep of horizontal resolution at 240 km.
 - b) Modify state(s) to avoid saturation; this will reduce the spatial resolution by a factor of 2 for at least one channel over all tangent altitudes (data rate limits).
 - 3) Possible solutions to replace current lunar occultation state for measurements with tangent points on the dayside (change of mission scenario; impact on operations/mission planning needs to be discussed):
 - a) Perform other measurements (nadir) instead.
 - b) Define a new state (combination of limb & lunar occultation):
Analysis of these data will be a complex task
 - 4) Sun fast sweep: Use current state (modified; incl. dark phase)