

Main processor improvements for Baseline 14

L1b Processor V7.12:

- **Two bugs have been identified and fixed in the calculation of the geolocation parameters.** These bug-fixes remove a longitudinal offset ($0.075^\circ \sim 8$ km at the equator) in the geolocation of all Aeolus products.

L2a Processor V3.14.6:

- **First version of the maximum-likelihood estimation algorithm (MLE)** for aerosol optical properties is now implemented in the L2A processor.
- Several **small code updates, mainly bug fixes**, were implemented for the **AEL-FM and AEL-PRO** processor parts, e.g. the `Spacecraft_Attitude_On_Target` flag is now evaluated.
- **The data products for the MLE, AEL-FM and AEL-PRO are available for testing, but flagged invalid.**
- **The group data quality flag retrieval is now based on absolute errors.**
- The total Mie SNR is now used for cross-talk correction, in the SCA and group data calculation.
- **The ICA data sets ICA_PCD and ICA_OPT have been deleted** from the L2A product.

L2b Processor V3.70:

- A new feature has been implemented, which allows to set a **switch so moon-blinding will not flag measurements as invalid**. Therefore, they are now considered to be used for wind retrieval. In case the moon-blinding condition occurred, the resulting wind will be flagged invalid. **This should allow to more easily study the wind bias caused by moon-blinding and possibly tune the parameters used in this procedure to allow more winds to be flagged valid.**
- A **two-step algorithm for scattering ratio classification** has been implemented. This new feature allows to define sub-groups of measurements, for which the signal will be accumulated before optical properties calculations and classification are performed. This should make it possible to achieve the same improvement as is seen when the instrument settings for the number of pulses per measurement P and the number of measurements per observation N is modified. **This option is mainly useful for reprocessing.** Note that this is an experimental feature that needs more testing.
- The `AUX_TEL_generator` has been modified to also allow **fitting on harmonic factors as a function of the argument of latitude (orbit phase)**. The L2BP has been adapted to allow using these harmonic factors for wind bias correction. This **removes the enhanced opposite bias for ascending and descending orbits observed in October and March.**