L1b Processor V7.10:

- **Several additional Attitude and Orbit Control System (AOCS) flags** (e.g. moon blinding status, eclipse status, star tracker status) were added to the L1B product **for better quality control**.
- After issues with the internal reference signal in December, a **switch for the usage of the internal reference** (or a constant value) has been added to both Rayleigh and Mie channel processing.
- The L1B Mie/Rayleigh Response Calibration products have been extended with ground bin & Digital Elevation Model (DEM) information.
- **Negative signal counts in Mie spectral data are no longer set to zero**.
- **Additional information** (telescope temperatures, sun_elevation, geolocation of DEM intersection) has been **added to the AUX_IDC** (Instrument Defocus Calibration)
- The energy drift correction (already available for the Rayleigh) has now also been added to the Mie channel.
- The Dark Current Calibration (DCC) and Laser Beam Monitoring (LBM) processing has been improved.

L2a Processor V3.12:

- Lidar ratio and a scene heterogeneity index have been added to the L2A product. The scene heterogeneity index characterizes the variability of the Rayleigh/Mie useful signal within one BRC. It is defined as the standard deviation of the Rayleigh/Mie useful signal within a basic repeat cycle (BRC) with respect to the Poisson noise.
- A preliminary version of attenuated backscatter calculation and feature classification using an ATLID (EarthCare) approach have been added to the L2A processor. The corresponding data products are available for testing, but flagged invalid.
- The satellite on target flag provided in the L1B product is now evaluated when data from the L1B product is selected for L2A processing (e.g. k_ray/k_mie calculation). Data where the flag is set to false is excluded now.
- Signal-to-Noise ratio for the total Mie signal is recalculated in the L2A processor (workaround for missing parameter in L1B output) and used for further processing in the L2A (error calculation).

L2b Processor V3.50:

- After issues with the internal reference signal in December, a **switch for the usage of the internal reference** (or a constant value) has been added to both Rayleigh and Mie channel processing.
- The **moon-blinding flag** from the L1B products is now used in the L2B processor to sort out measurements influenced by moon-blinding.
- **Fitted Mie non-linear response corrections** as provided in the L1B product **can now be used in the L2B processor** for wind correction.
- A switch to define a backup method for defining the scattering ratio used for decontamination of the Rayleigh wind result has been added.
- **Update of Python AUX_TEL generator** (correction of telescope temperature variations):

- The Codadef file has been removed from the AUX_TEL generator source code. For updating to new product formats, only the codadef has to be changed, not anymore, the whole AUX_TEL generator.