



## SCIAMACHY: The new Level 0-1 Processor

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SCIAMACHY (SCanning Imaging Absorption spectromETER for Atmospheric CHartographY) is a scanning nadir and limb spectrometer covering the wavelength range from 212 nm to 2386 nm in 8 channels. It is a joint project of Germany, the Netherlands and Belgium and was launched in February 2002 on the ENVISAT platform. After the platform failure in April 2012, SCIAMACHY is now in the postprocessing phase F. SCIAMACHYs originally specified in-orbit lifetime was double the planned lifetime. SCIAMACHY was designed to measure column densities and vertical profiles of trace gas species in the mesosphere, in the stratosphere and in the troposphere (Bovensmann et al., 1999). It can detect O<sub>3</sub>, H<sub>2</sub>CO, SO<sub>2</sub>, BrO, OClO, NO<sub>2</sub>, H<sub>2</sub>O, CO, CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, O<sub>2</sub>, (O<sub>2</sub>)<sub>2</sub> and can provide information about aerosols and clouds.

The operational processing of SCIAMACHY is split into Level 0-1 processing (essentially providing calibrated radiances) and Level 1-2 processing providing geophysical products. The operational Level 0-1 processor has been completely re-coded and embedded in a newly developed framework that speeds up processing considerably. Currently Version 9 of the Level 0-1 processor is implemented. It will include

- An updated degradation correction
- Several improvements in the SWIR spectral range like a better dark correction, an improved dead & bad pixel characterisation and an improved spectral calibration
- Improvements to the polarisation correction algorithm
- Improvements to the geolocation by a better pointing characterisation

Additionally a new format for the Level 1b and Level 1c will be implemented. The version 9 products will be available in netCDF version 4 that is aligned with the formats of the GOME-1 and Sentinel missions. We will present the first results of the new Level 0-1 processing in this paper.