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Validation of GOME-2A and GOME-2B Ozone Profiles and Tropospheric Ozone Column Products, Using Balloon Sounding Data

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After more than five years of GOME-2 measurements on MetOp A in an operational context during EUMETSAT's first Continuous Development and Operations Phase, MetOp B was successfully launched on 17th of September 2012. With an identical GOME-2 instrument on board, the continuity of these measurements is ensured together with the retrievals of its dedicated products.

GOME-2A and GOME-2B ozone profile data are made available by KNMI within the context of EUMETSAT's O_3M SAF. The reference data includes a global coverage of ozonesonde stations. We take into account the GOME-2 averaging kernels in our analysis to smooth the ozonesonde data towards the resolution of the satellite data. We will discuss the degradation of the GOME-2A instrument and its influence on the ozone profile product and make a comparison with the updated GOME-2B high resolution ozone profile product.

Validation results from the tropospheric ozone column products from GOME-2A and GOME-2B will also be shown. To verify if the accuracy is within predefined error bounds given by user requirements, the tropospheric column values will be validated against ozonesonde data. Validation needs to establish the tropospheric ozone column accuracy for the complete range of observing and geophysical conditions that may affect it. Observing conditions include viewing and solar angles, instrument settings.

GOME-2 tropospheric ozone column data are made available by DLR and KNMI in the framework of the O_3M SAF. It includes further development and improvement of the CCD and cloud-slicing method for GOME-2.