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Large-scale validation of SCIAMACHY reflectance in the ultraviolet

G. van Soest, L. G. Tilstra, and P. Stammes
Royal Netherlands Meteorological Institute (KNMI), P.O. Box 201, 3730 AE De Bilt, The Netherlands

Abstract. In this paper we present an extensive validation of calibrated SCIAMACHY nadir reflectance in the UV (240-400 nm) by comparison with spectra calculated with a fast radiative transfer model. We use operationally delivered near-real-time level 1 data, processed with standard calibration tools. A total of 9 months of data has been analysed. This is the first reflectance validation study incorporating such a large amount of data. It is shown that this method is a valuable tool for spotting spatial and temporal anomalies. We conclude that SCIAMACHY reflectance data in this wavelength range are stable over the investigated period. In addition, we show an example of an anomaly in the data due to an error in the processing chain that could be detected by our comparison. This validation method could be extremely useful too for validation of other satellite spectrometers, such as OMI and GOME-2.

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