



Nadir Ozone Profile Retrieval from SCIAMACHY: application to the Antarctic Ozone Hole

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We present new nadir ozone profile retrievals using SCIAMACHY UV reflectance spectra for the mission period of the Envisat satellite. We have used the most recent Level-1 data version (v8 with degradation correction included) in the UV range (265-330 nm) and have used the OPERA optimal estimation algorithm (van Peet et al., AMT, 2014) developed in KNMI. We first show the comparison of the retrieved satellite profiles to co-located ozone sonde profiles in order to evaluate the accuracy of the retrieved ozone profile dataset. Based on these results, we have further processed the SCIAMACHY nadir dataset, specifically all the southern hemisphere pixels south of 45 degrees latitude for the months of August-November for the complete years 2003-2011. We show the monthly mean profiles, time-series of daily averages and minima of the retrieved stratospheric columns, and finally the ozone profile trend over the years 2003-2011. We also show the comparison of our results with the literature and hence the consistency of this new SCIAMACHY dataset.