



Stratospheric profiles of NO₂, BrO and OCIO: Observations by SCIAMACHY and comparisons to ECHAM5/MESSy1

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We present vertical profiles of NO₂, BrO and OCIO retrieved from the SCIAMACHY limb observations of the years 2003-2008. This dataset is investigated regarding the agreement with balloon-borne validation measurements and correlated satellite observations and the relation to meteorological parameters (for long term and in case studies).

As well, the derived profiles are compared to ECHAM5/MESSy1 simulations which were calculated exactly for the time and place of the SCIAMACHY observations.

The interaction of the stratospheric trace species NO₂, BrO, OCIO will be investigated for selected meteorological situations as well as for long term correlations for different seasons and latitudes, considering in particular the impact on the ozone chemistry.

We investigate the inter-hemispheric differences in the OCIO profile (e.g. regarding the magnitude, the altitude of the profile peak and their evolution throughout the winter). For the Arctic, we study the inter-annual differences and investigate the dependence of chlorine activation on the respective meteorology for a given winter.