Geophysical validation of NO2 profiles from SCIAMACHY lunar occultation measurements

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Vertical profiles of stratospheric NO2 have been retrieved from lunar transmission spectra measured by Scanning Imaging Absorption Spectrometer for Atmospheric Chartography (SCIAMACHY). These measurements were taken over the high Southern latitude of 60-90 degrees during the period of March to June 2003 and January to June 2004.

To assess the accuracy of the retrieved NO2 profiles, the SCIAMACHY nighttime NO2 profiles were compared with daytime NO2 profiles measured by Halogen Occultation Experiment (HALOE), Polar Ozone and Aerosol Measurement (POAM-III), and the Stratospheric Aerosol and Gas Experiment (SAGE-II) using photo chemical correction model. The outcome of these validations are presented in this paper.