



Validation of SCIAMACHY limb ozone and NO₂ vertical profiles from OL 3.01 (ESA) and IUP Bremen

L. K. Amekudzi(1), A. Rozanov (1), C. von Savigny (1), A. Doicu (2), G. Lichtenberg (2), M. Weber (1), K. Bramstedt (1), H. Bovensmann (1), and J. P. Burrows (1)

(1) Institute of Environmental Physics and Remote sensing (IUP/IFE), University of Bremen, Germany. (2) DLR-Remote Sensing Technology Institute, Oberpfaffenhofen, 82234, Weiling, Germany

Global stratospheric concentration profiles of ozone and NO₂ have been inferred from the Scanning Imaging Absorption Spectrometer for Atmospheric Chartography (SCIAMACHY) limb observations using the official ESA offline algorithm version 3.01 and our own retrieval (IUP Bremen) version 2.0. We compared ozone and NO₂ with HALOE (version 19) and SAGE II (version 6.2) ozone and NO₂ products. To account for the diurnal variation between SCIAMACHY limb and the solar occultation NO₂ observations, a photochemical scheme is applied to scale HALOE and SAGE II NO₂ to SCIAMACHY solar zenith angles. The seasonal and latitudinal variations which could influence the observed differences have been checked and will be discussed. The large errors introduced due to improper knowledge of tangent heights in the ESA OL 3.01 ozone and NO₂ profiles have significantly reduced. The overall quality of the data set will be discussed.