



First retrievals of the stratospheric water vapor content from SCIAMACHY limb measurements

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The Scanning Imaging Absorption spectroMeter for Atmospheric CHartographY (SCIAMACHY) launched on board the European Environment Satellite (ENVISAT-1) in March 2002 is one of the new-generation space-borne instruments capable of performing spectrally resolved limb measurements of the solar radiation scattered in the Earth's atmosphere. This novel remote sensing technique allows daily near-global measurements of the atmospheric composition from space with high vertical resolution (2-3 km).

In this study we present first retrieval results of the water vapor vertical distribution in the lower stratosphere and upper troposphere (between about 12 and 22 km) obtained from the SCIAMACHY limb measurements at the Institute of Environmental Physics of the University of Bremen. The retrieval algorithm will be discussed and main results of the sensitivity studies will be shown. Furthermore, example comparisons with independent measurements (satellite and ground-based) will be presented.