SPARC Water Vapor Assessment: Water vapor from SCIAMACHY limb measurements in the upper troposphere and lower stratosphere

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Limb measurements of scattered solar radiation in the near infrared spectral range from the SCanning Imaging Absorption spectroMeter for Atmospheric CHartograpY (SCIAMACHY) aboard the Envisat satellite are used to retrieve water vapor from about 12 to 23 km altitude. SCIAMACHY provides a global view into the upper troposphere and lower stratosphere (UTLS), a region of special interest for a variety of dynamical and chemical processes. SCIAMACHY measurements started in 2002 and are still ongoing. Our aim is to obtain water vapor time series with dense coverage in the UTLS. The retrieval in the 1353-1410 nm spectral range is computational expansive because multiple scattering needs to be considered. A validation of the new data version with improved treatments of aerosols and clouds and improved tropospheric correction by comparison with other satellite and in-situ data will be presented.