



Long term variations of chemical heating rates, atomic oxygen and hydrogen derived from SCIAMACHY

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In this study the emissions of excited hydroxyl radicals, measured by SCIAMACHY are analyzed. SCIAMACHY is one instrument aboard ESA's Envisat launched in March 2002 into a sun-synchronous orbit with an inclination of 98.7° and an ascending node at 22:00 local time. The measurements cover a latitude band between 50° S and 80° N depending on season. Based on these measurements altitude profiles of chemical heating rate, atomic oxygen and hydrogen are retrieved by means of an OH non-LTE model. Because of the excellent radiometric calibration and long term instrument stability the data are well suited to study long term trends. The data are analyzed with respect to solar illumination conditions and global wave activity.