

# UPPER ATMOSPHERIC NO FROM SCIAMACHY: SIMULATIONS AND INSTRUMENT CAPABILITIES

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**ABSTRACT**

The SCanning Imaging Absorption spectroMeter for Atmospheric ChartographY (SCIAMACHY) operates in eight channels covering the UV, the visible and two infrared regions. Recent developments in the testing of the instrument now enable not only the full use of channel 1 (240 nm-314 nm) at a required high level of performance but in some special cases its extension to 220 nm. This instrumental improvement allows new objectives to be addressed in the upper stratosphere, on top of the already proposed mesospheric and thermospheric investigations of nitric oxide. Simulations will show the instrument capabilities for these studies and will be compared with the latest instrument test data obtained before instrument delivery. The operation modes corresponding to these NO observations will also be described. The capabilities of SCIAMACHY for mapping the total column of upper atmospheric NO will be investigated as well as possibilities to infer NO vertical distribution and transfer properties between the different atmospheric regions. Nitric oxide signal will also be discussed in the present ERS-2 GOME observation.