

Answer to Referee #3

Acronyms and abbreviations (e.g. MetOp-A) need to be explained.

done

The whole paper should be checked for grammar and typographical errors (e.g. p.7984, line17: 'atmospheric trace gas'; p. 7985, line 7: 'inferred'; lines18-20: 'data set', 'high-quality', 'the instrument's own'; etc.)

done

Abstract, last sentence: please specify the meaning of 'routinely'.

'routinely' here means the standard retrieval performed at IUP Bremen to process the entire satellite data This will be clarified in the text.

Section 2.2: how stable was the ozone concentration during the measurement of the absorption cross-sections?

As mentioned in Section 2.2, the measurements were performed using continuous flow and the pressure of the flow towards the vessel and in the vessel were stable to within 1% (any change in the concentration will change the pressure).

Does the stability of the ozone concentration influence the accuracy of the measured results?

See previous answer, the 1% error for the pressure measurements (and concentration) will add to the error in the cross-section

How much time did it take to go through the measurement steps 1. - 3. (line 15-19)?

The time to go through the measurement steps 1. - 3 was between 1.5 and 4 hours. It should be mentioned here that at least three absorption measurements were performed in STEP-2. The time depends on the target region: high absorption windows required less time compared with low absorption regions.

Section 4.3: please explain briefly the meaning of 'DOAS retrieval window'

The spectral window 325-335 nm is commonly termed as DOAS window and used by many groups in retrieving total ozone from hyper spectral sensors like GOME and SCIAMACHY.

Page 7994, line 22: was the scaling factor applied to the differential structure, or to the absolute absorption cross section?

The scaling factor was applied to the differential absorption as a cubic polynomial is subtracted. this will be clarified in the text.

Fig. 5: the figure caption should state clearly that the figure compares absorption cross sections; a corresponding y-axis label is missing and should be added; units are missing in the line at figure top and should also be added. For better readability the legend could be shifted to the right part of the figure.

done

Fig. 6: what is the meaning of 'ozone fit residual' ?

Root mean square of the difference between the measured and modeled nadir radiance in the WFDOAS algorithm. This will be clarified in the text.

What is the unit (should be given on the y-axis)?

Dobson Units, DU. Done.

Fig. 7+8: the black dots can hardly be seen. Try a different colour for better readability.

done