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Atmospheric Measurement Techniques Discussions

Interactive comment on "Intercomparison of slant column measurements of NO_2 and O_4 by MAX-DOAS and zenith-sky UV and visible spectrometers" *by* H. K. Roscoe et al.

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Response to Anonymous Referee 2.

Referee 2 is very generous.

Our responses to the comments following the referee's numbers follow each comment.

1. Table 2 shows the "uniform set of cross sections and other parameters" that were used for spectral analysis. Why is the polynomial degree for the analysis in the visible wavelength range not uniform? Has the effect of using a different polynomial degree

been investigated? Also, has a pre-logarithmic offset been included in some analyses and could that have led to differences?

The polynomial degree is a somewhat arbitrary choice, and different groups chose their personal favourites. The BIRA group has made some investigations of the effects, which are important when Ring cross sections dominate, e.g. when analysing for BrO. However, with the much larger optical depths of NO2 absorption, the differences are small. Pre-logarithmic offsets were not included.

2. Fig. 15 might not be necessary, as this is the method that is not being used to analyze data.

On the contrary, the method of Figure 15 is used, but the resultant slopes are then divided by the average of the slopes of all instruments, as explained in the text.

3. p.3387, line 9, perhaps "cloud and aerosol effects" instead of only "cloud effects"

Yes, and we have now inserted "and aerosol".

4. Table 1: Washington, fibre or not: include "no"

Yes, now included.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 3383, 2010.