

Interactive comment on “Intercomparison of total column ozone data from the Pandora spectrophotometer with Dobson, Brewer, and OMI measurements over Seoul, Korea” by Jiyoung Kim et al.

Anonymous Referee #1

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The paper compares the measurement of total ozone columns measured with the relatively new Pandora instrument with data from other techniques at a specific site. Although similar comparisons have already been published it is of scientific value to have this additional comparison to evaluate the quality of the data obtained with the different techniques.

The manuscript is well structured but at some places the explanations could be more precise (see specific comments).

In section 3.3 the diurnal variations are discussed, but only in conjunction with the

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Dobson instrument. It would be interesting to include a comparison of the diurnal variations with the Brewer instrument which, I suppose has more observations per day than the Dobson, and which shows the best correlation with the Pandora.

Specific comments:

line 21-22: "... are accurate and closely correlated" this is vague and could be more precise from the results.

line 48: the type of observations possible with a Brewer instrument depend on the version of the instrument

line 49: please reformulate with a separate sentence to make clear that the 1% accuracy holds for direct sun observations only

line 112: Although references are given about the calibration history it would be of interest to the reader to mention the calibrations (and the conclusions) that are relevant for the period of the comparison.

line 115: a trend from 1979 to 2004 is mentioned while in line 102 it is mentioned that the instrument became operational in 1984. Please clarify

In the section starting at line 118: please mention, as for the Dobson instrument, the calibrations (and their conclusions) that are relevant for the comparison period.

line 179: please specify which RMS is meant (of the observations during the day?) and what is meant by uncertainty of ozone amount

line 201-204: reformulate (split sentence).

line 247-248: what is meant by "all () lines () show best fit"?

line 273 : is MSR abbreviation for "mean square regression"?

line 303 and following: what would be the estimated effect of each of the possible error sources (eg what is the SO₂ effect at Seoul?)

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Technical comments:

Figure 1 : the 5 panels could be combined in one larger panel, with the different instruments represented in different colors/symbols. The same colors/symbols could then be used in Figure 2

Figure 3: if colors are used in fig s 1 and 2, the same colors can be used in fig 3. please mention what is the width of the bins of the histogram?

Caption fig 6 (line 594): replace "null" by "missing"

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-146, 2016.