

Keppens et al. responded to the reviewer comments. All points raised in the first report were addressed. This includes both general and main comments as well as the minor/specific comments. Most of the reviewers' suggestions were adopted and incorporated into the manuscript. Where the authors had other suggestions, these were appropriately justified and explained.

In view of the authors' response and the changes made to the manuscript, it can be published in AMT. Nevertheless, I suggest that a few minor, mostly technical/editorial, comments might be considered for the final submission.

General Comment:

The others opted for BE. Hence, I recommend to do this consistently. Some examples for still existing inconsistencies are: summarizes -> summarises, or, Sun-normalized -> Sun-normalised and similar words. Although there will be a thorough language editing by AMT, I suggest already now to be consistent throughout the manuscript.

Minor/specific and technical comments:

Page 5, lines 88 and 92: Sun-normalized -> Sun-normalised

Page 5, line 91: I am still puzzled by the tropospheric ozone concentration of 10^{12} molecules per cubic meter. I still think this value is much too low and should read molecules per cubic centimetre, see also Siddans (2003) and Munro et al. (1998). Please cross check again.

Page 6, line 147: deseasonalized -> deseasonalised

Page 16, line 419 and at other places in the manuscript: summarizes -> summarises

Page 19, line 526: (Figure 8, left)

References:

Munro, R., Siddans, R., Reburn, W. J., and Kerridge, B. J.: Direct measurement of tropospheric ozone distributions from space, *Nature*, 392, 168–171, <https://doi.org/10.1038/32392>, 1998.

Siddans, R.: Height Resolved Ozone Retrievals from GOME, PhD Thesis, University of Reading, Reading, 2003.