

Interactive comment on “Proposed standardized definitions for vertical resolution and uncertainty in the NDACC lidar ozone and temperature algorithms – Part 2: Ozone DIAL uncertainty budget” by Thierry Leblanc et al.

Thierry Leblanc et al.

thierry.leblanc@jpl.nasa.gov

Received and published: 22 July 2016

The authors would like to thank both reviewers for taking the time and making the effort to review our manuscript. We have addressed all points raised by the reviewers, which improved the quality of our manuscript. Below is a detailed reply to their comments.

Reviewer #1:

Reply to Reviewer #1 comment on nighttime measurements in the troposphere (page 1): It is not assumed that the measurements are being made specifically at night, though the large majority of NDACC lidars directly concerned by this manuscript op-
C1

erate at night indeed. For daytime measurement systems, the sky background noise and resulting detection noise are obviously much larger, but the approach described in our manuscript applies likewise. Also, we would like to emphasize that this approach applies to both tropospheric and stratospheric DIAL (indeed results shown for both). We added a specific comment in our description of Fig. 16 and Fig. 17 to remind the reader that those examples are taken from nighttime measurements, as well as in the section pertaining to the background noise extraction.

Reply to Reviewer #1 comment on bold references (page 1): The bold font for references was used only for convenience in the draft manuscript. This will be corrected with the appropriate non-bold font at the time of proof-reading, following AMT's publishing standards.

All other comments, as hand-written onto the manuscript (mainly typos): We corrected each occurrence according to the reviewer's suggestions

On page 13, We added the following reference: Measures, R. M.: Laser remote sensing: fundamentals and applications, Wiley, 510 pp., 1984

Reviewer #2: We would like to thank reviewer #2 for his very positive review. We will make sure that the typos he referred to are corrected during copy-editing.

For both reviewers: For the sake of completeness, we added one more reference in the introduction: Godin S.: Étude expérimentale par télédétection laser et modélisation de la distribution verticale d'ozone dans la haute stratosphère, PhD thesis (in French), Université Pierre et Marie Curie, Paris, 231 pp., 1987

Please also note the supplement to this comment:
<http://www.atmos-meas-tech-discuss.net/amt-2016-121/amt-2016-121-AC1-supplement.pdf>