

1 **amt-2017-194**

2 **The CHRONOS mission: Capability for sub-hourly synoptic observations of carbon monoxide**  
3 **and methane to quantify emissions and transport of air pollution**

4

5 **David P. Edwards, Helen M. Worden, Doreen Neil, Gene Francis, Tim Valle, and Avelino F.**  
6 **Arellano Jr.**

7 We thank the Editor for his comments, which have been addressed. Please see comments  
8 embedded below.

9

10 **Associate Editor Decision: Publish subject to technical corrections** (03 Jan 2018) by Andre Butz

11 **Comments to the Author:**

12 Dear Dr. Edwards,

13

14 thank you for carefully considering the reviewer comments and for revising the manuscript.

15

16 I accept the paper for publication in AMT but the figures require some technical corrections:

17

18 - Fig.1: Avoid PowerPoint-like style, ie. label panels a),b),c),... and explain in caption instead of  
19 using arrows and in-figure text, avoid black background.

20 The Figure has been updated as suggested.

21

22 - Figs 2,3,4: Please enhance figure resolution.

23 Figures changed as requested.

24

25 - Fig. 12: Avoid PowerPoint-like style, use legends and panel explanations instead of in-figure  
26 text, avoid black background.

27 The Figure has been updated as suggested.

28

29 For completeness, I would like to further comment on the aerosol and cloud contamination  
30 issue. Scattering and absorption radiative transfer only decouple for absorption optical  
31 thickness of less than  $\sim 0.01$ , i.e. your soundings are not in the regime where a simple  
32 differential approach holds in general. However, your revision makes clear that soundings with  
33 aerosol/cloud optical thickness greater than 0.2 will be screened. So, I would agree that the  
34 wording in the manuscript with respect to aerosol and cloud contamination is acceptable.

35

36 Best regards,

37 André Butz.

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