

Interactive comment on “A broadband cavity enhanced absorption spectrometer for aircraft measurements of glyoxal, methylglyoxal, nitrous acid, nitrogen dioxide, and water vapor” by K.-E. Min et al.

Anonymous Referee #2

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This paper reports development of an airborne LED-CEAS system which shows extraordinary stability in terms of pressure change on the aircraft (the authors were able to back out mirror R based on pressure-induced number density change of air!). The paper is well written and is suitable for publication on AMT with only a few minor points as below.

Page 11213, line 11, “underscore” -> “underscores”;

Section 2.2, I am (and I believe the general community of field CEAS are) interested in

C4466

this novel cage design based on carbon fibre rods which was first introduced in Wild's paper and then adopted here. A couple of questions about fine details: (1) how did you adjust for alignment between the two mirrors prior to locking them? (2) if you use O-rings to make seal, will they not be the most sensitive components in the whole design that are vulnerable to pressure change? How did you cope with this?

Page 11219, I am not sure whether a relatively constant CHOCHO/HCHO ratio during field measurements SENEX 2013 is a convincing evidence supporting the negligible effect of RH on inlet transmission efficiency of CHOCHO, given the large uncertainties wrt source/sink terms of these two species and their relations with RH.

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