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Atmospheric Measurement Techniques Discussions

Interactive comment on "A comparison of very short-lived halocarbon (VSLS) and DMS aircraft measurements in the Tropical West Pacific from CAST, ATTREX and CONTRAST" *by* Stephen J. Andrews et al.

Anonymous Referee #3

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The paper by Andrews et al. presents an intercomparison of airborne VSLS measurements. The paper is well written, the message is clear, the conclusions are well supported.

Next to a few minor points, I have one major comment, which I would like the authors to clarify.

Major point: The "average VSLS MAPE" for CH2Br2 is quoted at 3%. This values is however only achieved after correcting the loss in the sampling lines. This loss is calculated through comparison with other observations (in-situ) GC. Correcting one value

with respect to another and then averaging these two values is a circular argument. The MAPE should be calculated without the correction of sampling line errors. These offsets can usually (if only a single data set is available) not be derived, so they must be included in the assessment of uncertainty.

Minor points:

p. 2. l. 17. can the drifts be specified in relative units?

p.2. l. 27: This is not a calibration of the WAS instruments but of the GC analyzing the WAS.

Section 2.2.2. Is there no in-flight calibration of the GC-MS? If so, please specify how detector drift is taken into account. Or is the pre-flight calibration only to ensure that standards between both instruments re consistent?

p.8. l. 30.: can the precisions of the of the individual instruments be specified? E.g. Sala et al. (ACP, 2014) present in-situ airborne GC-MS measurements of VSLS with partly very good precision.

p. 9. l.7.: why is tis procedure limited to 1sigma around the average? Should sampling line offsets not be altitude dependent, as the flow usually decreases with altitude? Also humidity changes with altitude.

p. 10 l. 5 and 27: I think that the way these numbers are calculated contains a circular argument (see major comment above).

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