

Reply to Anonymous Review #1

We thank the reviewer for comments and suggestions. We have revised the introduction to better explain the terms “calibration scale” and “scale transfer”. We have also added text that, we hope, improves readability.

Specifics

p 8026 line 19: “Dry synthetic zero-grade air was added to two cylinders to create subambient air samples”. Suggest changing to “Dry synthetic zero-grade air was added to two cylinders to create mixtures having mixing ratios that are lower than the ambient air samples”

Revised as suggested.

p 8026 line 23: “At Niwot Ridge, air was pumped through a 6-m stainless steel inlet line (2.54 cm O. D.)” this sentence just sort of hangs there – maybe combine it with the following sentence and give context to it.

Revised to improve sentence flow.

p 8027 line 4-6: “Three stainless steel cylinders (one diluted, two undiluted) were filled sequentially on 17 March 2004 during strong westerly synoptic flow. A second set of three cylinders 5 was filled on 8 July 2004.” – first sentence states the conditions of the fill the second does not.

Revised to improve sentence flow. Since all cylinders were filled under unpolluted conditions, the specific reference to “strong westerly synoptic flow” was deleted.

p 8027 line 11-: “Most participants employ gas chromatography with electron capture-, mass selective-, or flame ionization detection. While laser-based systems have been developed for some species (e.g., N₂O and CH₄), they were not widely used at the time of this experiment.” Were laser-based systems used at all in this experiment?

Only one laser system was used for this experiment, and only for CH₄. The reference to laser-based methods was deleted as it is not relevant.

(p. 8030) Is it justified to speak of factors such as 1.0108 to this number of significant figures?

For some gases we have tracked ratios at 5 significant figures. This is only justified for a few gases based on typical measurement precision. For other gases we only report 4 significant figures.

P 8031 line 10 (Rhoderick misspelled)

Thank you

P 8034 line 10 “These results imply that one needs to be careful when accessing data collected by different instruments.” Perhaps the authors mean using the data rather than accessing it.

Agreed, we have made this change.

P8035 line 7: suggest: Thus, one might expect that the development of measurement scales for HCFCs is less advanced.

Revised as suggested.

Tables and Figs:

Table 1 lists laboratory 19 as UCI-2 but in the figures laboratory 19 is sometimes UCI-

2 and sometimes/mostly NCAR/UM. Table 1 lists laboratory 15 as UM-2 but in the figures it is NCAR or NCAR-P or NCAR/UM. Often the figures show NCAR/UM for both laboratory 15 and 19. Very confusing.

The numbers along the bottom of the figures refer to the laboratory number, while the labels along the top refer to the scale in use by each laboratory. Some laboratories have adopted scales from others, which is why the scale identifiers do not always correspond to lab numbers as might be expected. We feel that it is very important to show both on the same figure. One can easily see variations among laboratories using the same scale (same color), and also laboratories of scale origin (circles). We have attempted to clarify this information in the caption.