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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Atmospheric histories and growth trends of C_4F_{10}, C_5F_{12}, C_6F_{14}, C_7F_{16} and C_8F_{18}" *by* D. J. Ivy et al.

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As the author of a somewhat similar work (Laube et al. 2012, ACPD)I very much welcome this very interesting and carefully carried out study and also have a few comments/questions.

page 4169, line 5pp: How small is the blank exactly? And was its variability checked and added to the uncertainties?

page 4170, line 13pp: How nonlinear were the instruments i.e. what were the actual values of the nonlinearity values? If there was a significant non-linearity the respective uncertainties might well impact on the error bars.

Section 2.2.: C6F14, C7F16 and C8F18 are liquid at room temperature with the latter

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two having considerably high boiling points of arnound 81 and 100 degrees Celsius. CFC-12 as a low-boiling compound would not experience such loss. What measures where taken to avoid loss from condensation of these compounds during the preparation of the dilutions? Also, when spiking always with the same amount of PFC reproducable results might well be achieved even when a loss occurs.

Page 4173, line 2: 0.0088 ppt is about three times the standard precision for C8F18 as stated in Table 2, and this at the comparably mixing ratios in the standard. How can that be "good agreement"?

page 4183 and 4184: It would be good to increase the readability of both figures. Also, if a data point is below detection limit, how can its precision be much smaller than the detection limit?

In general I would like to encourage the authors to publish their results in numerical form as this will aid in a) future studies on these compounds, b) later comparisons with other studies, and to c) simplifying access to the data for authors of international assessments such as the upcoming IPCC report.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 4165, 2012.