

Interactive comment on “Distributions, long term trends and emissions of four perfluorocarbons in remote parts of the atmosphere and firn air” by J. C. Laube et al.

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Received and published: 27 March 2012

It's interesting to see an independent study for comparison with our own work (Ivy et al. (2012), ACPD). I just have a few comments to help clarify some points.

Section 2 - Experimental Methods - Is the instrument response linear over the entire range of samples measured? Were any linearity experiments done to assure there were no non-linearities due to preconcentration.

p.4081, line 9 - The uncertainty on the C_7F_{16} mixing ratio reported is around 5%. How-
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ever, the calibration scale has an uncertainty of 15% due to the use of 85% n-isomer for the C_7F_{16} calibration scale. This calibration uncertainty should be reflected in the reported mixing ratios.

Section 3.3 - Top-Down Emissions and Figures 8 and 9 - These errors on emissions seem rather high. Can the author explain how they were estimated?

It would be interesting to run the top-down emissions through the 2-D model and see if the NH modeled mole fractions match the firn air results.

Figure S3. The y-axis unit label should be [ppt/year].

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 4073, 2012.