

## ***Interactive comment on “Ozone loss derived from balloon-borne tracer measurements and the SLIMCAT CTM” by A. D. Robinson et al.***

### **Anonymous Referee #2**

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Overall I find the paper excellent and very useful, and hence is worthy of publication due to its content comparing real data and model capacity. Consequently my comments below are minor clarifications/corrections, except in questioning or having some minor hesitancy regarding the neglect of the problem of the early instrument difficulties. Maybe some more focused statement can be made on this issue.

Specific comments: In a number of places the authors state 'provided the bias is consistent' to allow for the problem found with the DIRAC instruments flow rate and the DESCARTES systematic bias. Is it clearly shown in the paper that this is the case?

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Section 2.1 The phrase "this calibration gas is linked NOAA-CMDL working standards" seems odd, please correct/clarify.

Section 2.1 - the authors use a mixture of pg CFC-11 and pg of CFC-11 I would suggest they be consistent and use pg of CFC-11

Section 2.1 3rd paragraph - sentence "Also, laboratory tests at..." is a massive sentence I would recommend it be reworded.

Section 4 3rd paragraph line 12 'since the O3/CFC-11 was effectively linear' makes no sense.. I understand what you trying to say but this sentence is vague/awkward. "since the O3 to CFC-11 correlation curve was effectively linear"

section 4.1 line 10 - it would be useful to indicate its Figure 3 after 3 December here.

section 4.2 last paragraph "polar vortex where evidently the model" - reads a little peculiar. I would say generally evidently sounds like its a surprise! which I'm sure its not.

section 4.3 "evolution has agreed well with data" - no need for the 'has'.

the word relations is used in several places when correlation is the meaning, this is minor but this phraseology is in my mind awkward. the real issue is a statistical relationship created by common physical forcing effects on the two independent species fields.

Figures seem clear and informative. except Fig 6b seems like the symbols are too similar and so hard to distinguish which is which?

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Interactive comment on Atmos. Chem. Phys. Discuss., 4, 7089, 2004.

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