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Correction to “NF₃, the greenhouse gas missing from Kyoto”

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Prather and Hsu [2008] is revised in this note with correct CFC-114 and CFC-115 lifetimes.

[2] **Acknowledgments.** We thank Vladimir Orkin and Dr. Michael Kurylo for graciously pointing out our misreading in (O¹D) reaction rate with CFC-114 and -115.

1. Correction to CFC-114 Lifetime and CFC-115 Lifetime

[1] In *Prather and Hsu* [2008] we have mistakenly used the overall quenching rate of O(¹D) from JPL 06-2 [*Sander et al.*, 2006] to compute the lifetimes of CFC-114 and CFC-115. As a result, their lifetimes are underestimated. When removing 25% physical quenching for CFC-114 and 70% for CFC-115 from the total quenching rate (see notes A48 and A49 in JPL 06-2), the lifetime is corrected to 190 years for CFC-114 and to 1020 years for CFC-115. Table 1 in

References

Forster, P. V., P. Artaxo, T. Bernsten, R. Betts, D. W. Fahey, J. Haywood, J. Lean, D. C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz, and R. Van Dorland (2007), Changes in atmospheric constituents and in radiative forcing, in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by S. Solomon et al., pp. 129–235, Cambridge Univ. Press, Cambridge, U. K.
 Prather, M. J., and J. Hsu (2008), NF₃, the greenhouse gas missing from Kyoto, *Geophys. Res. Lett.*, 35, L12810, doi:10.1029/2008GL034542.
 Sander, S. P., et al. (2006), Chemical kinetics and photochemical data for use in atmospheric studies, *JPL Publ.*, 06-2.

Table 1. Atmospheric Budget Lifetimes (given in years) of Fluorinated Gases From UCI CTM With and Without O(¹D) Reactions Compared to IPCC (*Forster et al.* [2007]). The lifetimes of CFC-114 and CFC-115 with O(¹D) are corrected from those published in *Prather and Hsu* [2008]

Gas	UCI Without O(¹ D)	UCI With O(¹ D)	IPCC
NF ₃	640	550	740
CFC-11(CFCl ₃)	48	47	45
CFC-12(CF ₂ Cl ₂)	100	96	100
CFC-113(CF ₂ ClCFCl ₂)	82	80	85
CFC-114(CF ₂ ClCF ₂ Cl)	230	190	300
CFC-115(CF ₃ CF ₂ Cl)	1650	1020	1700

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