

Reply to Short Comment #1

We thank Dr Adrian Tuck for his comment on the history of related work on chlorine chemistry.

This is an interesting paper. There is relevant history in the following references, which support some of the authors' points. J Chem Soc Farad Trans, 91,3063-3071,(1995). JGR-D, 102(D11),13,325-13,253 (1997). Faraday Discussions, 100, 389-410 (1995). Geophys. Res. Lett., 24, 2651-2654 (1997). The last of these defines a process that has relevance to photochemistry at the vortex edge and which apparently has not been considered.

Thank you for the information on the related previous work to this current study. We now added Tuck et al. (1995) and Jaeglé et al. (1997) to show examples of high-altitude aircraft measurements in the Introduction. Also, the loss of HCl at the vortex edge by the resupply of HOCl and ClONO₂ mentioned in Jaeglé et al. (1997) was cited in the discussion in Section 4.6.

In the revised draft with corrections by track change, the above corrections were shown by yellow-marked sentences, while red, purple, and blue corrections are the revisions suggested by reviewers #1, #2, and #3, respectively.