

Interactive comment on “Bromine partitioning in the tropical tropopause layer: implications for stratospheric injection” by R. P. Fernandez et al.

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The suggestion of a widespread ‘ring’ of bromine atoms in the TTL is an interesting one with a number of important ramifications, some of which are alluded to in the paper. Presumably this feature is consistent with that indicated in the Hg(0) oxidation studies of Holmes et al - 2006, 2010? They didn’t give it such a name but the profiles, for example above 200 hPa shown in Figure 1 of the 2006 paper (data from Yang et al., 2005 – already cited), seem to be indicative of the same feature. I haven’t cross-compared the model-chemistry details but it might be worth highlighting similarities/differences in approach. It may lie outside the direct scope of the authors’ paper but maybe they could comment to some degree on the specific role of such a bromine atom ring in

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removing elemental mercury in this part of the atmosphere as this is arguably one of the potentially most important effects? Holmes, C.D., et al. (2006) GRL, 33, L20808. Holmes, C.D., et al. (2010) ACP, 10, 12037-57.

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