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**Geoscientific
Model Development
Discussions**

Interactive comment on "The Lagrangian chemistry and transport model ATLAS: simulation and validation of stratospheric chemistry and ozone loss in the winter 1999/2000" *by* I. Wohltmann et al.

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After a short email correspondence, the reviewer and the authors were able to clarify the following issues:

- Major comment 3: The reviewer pointed me to the fact that not only the Match method, but also the vortex-average method can produce inherently different results than the method using passive ozone from the CTM. Particularly, the vortex-averaged passive ozone profile in the vortex-average method cannot be changed

by mixing from outer vortex air, while the passive ozone tracer in the model can (see Grooß et al., ACP, 8, 565–578, 2008). I have added a remark in the corresponding paragraph in the manuscript.

- Minor comment 13: Unfortunately, I did miss that Figure 53 indeed does exist in the supplement. Now Figure 53 shows ClO_x, which is not influenced by the diurnal cycle of ClO and Cl_2O_2.

Interactive comment on Geosci. Model Dev. Discuss., 3, 769, 2010.