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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Development of a climate record of tropospheric and stratospheric ozone from satellite remote sensing: evidence of an early recovery of global stratospheric ozone" *by* J. R. Ziemke and S. Chandra

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COMMENTS BY DR. J. LASTOVICKA

You attribute the turnaround of ozone trends in the mid-1990s (after _1994) fully to chemistry, to the effect of Montreal Protocol. I agree that the overall increase of ozone concentration is predominantly of chemical origin. However, an analysis for the Payerne balloon sounding station (Weiss et al., 2001) as well as analysis of ozone laminae behavior (Krizan and Lastovicka, 2005) indicate the dominant role of dynamics in the

early phase of ozone trend turnaround.

Weiss, A., J. Staehelin, C. Appenzeller, N.P.R. Harris: Chemical and dynamical contributions to ozone profile trends at the Payerne (Switzerland) balloon soundings. J. Geophys. Res., 106, 22,685-22,694, 2001.

Krizan, P., J. Lastovicka: Trends in positive and negative ozone laminae in the Northern Hemisphere. J. Geophys. Res., 110, D10107, doi: 10.1029/2004JD005477, 2005.

Thanks for commenting on our paper and suggesting these references. In the final section on stratospheric ozone trends in the revision we have included discussion on these points involving dynamics and Montreal Protocol and have included the above references you mention including some other ones.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 3169, 2012.