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Interactive comment on "Problems regarding the tropospheric O_3 residual method and its interpretation in Fishman et al. (2003)" *by* A. T. J. de Laat and I. Aben

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In the Section 4, de Laat and Aben [2003] claimed that the enhanced ozone over India is related to geophysical effect and tropospheric ozone seasonality by using tropopause height differences (Fig 3). However, their proof of seasonality effect on the enhancement of ozone is not sufficient. And there would be other possibilities. Some of them can be the direct solar energy differences between summer and winter, and planetary wave activity. Wirth [1993] showed that ozone fluctuations are influenced by planetary wave activity. In the Section 6, the variability of total ozone over Samoa is mainly caused by stratospheric ozone because the tropospheric ozone seasonality is weak [Kim et al., 2001]. Therefore, de Laat and Aben [2003] investigated the stratospheric

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ozone variability by using the proper proof. However, the ąőAtlantic paradoxąŕ called by Thompson et al., [2000] remains in Figure 1. For DJF, the feature with higher ozone over tropical South Atlantic and lower ozone over tropical North Atlantic does not agree with the biomass burning activity [Kim et al., 2003]. This suggests that various ozone climatology data such as SHADOZ and field campaigns is a complement to a good Logan/ECHAM.

References

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