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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Increased UV radiation due to polar ozone chemical depletion and vortex occurrences at southern sub-polar latitudes in the period (1997–2005)" *by* A. F. Pazmino et al.

Anonymous Referee #2

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The manuscript is good in general. The data and methodology are appropriate, although a few topics mentioned bellow should be taken into account, and it is well written.

1) Since in equation 1 zonal mean were calculated to determine the values outside the vortex, longitudinal variations were eliminated. Longitudinal climatological patterns as the “croissant” would not then be reflected in the analysis. Since the “croissant” produces larger ozone values on the Australian side of the vortex than in the South-American side, then the values in equation 1) would produce larger increases in the South-American side than in the Australian side, than those that

would have resulted of using values outside the vortex without performing zonal mean. The authors should consider this fact.

2) RAF is a function of Solar Zenith Angle, so, the authors should discuss why the RAF values are the same for the three months, while Solar Zenith Angles decrease from September to November.

3) Different periods are used at different calculations of the analysis:

a) April 1st – Dec 31st, (page 6506 “The classification.....”) b) September, October, November (page 6507, “The study was focussed on.....”) c) July to November (page 6507, “The first step to calculate....”)

This should be explained.

4) For TOC climatology, a moving average was first computed and then a third-order polynomial was used to fit, while for the UVI only a third-order polynomial. It should be briefly discussed.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 6501, 2008.

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Interactive Comment