Electronic supplement for "Simple measures of ozone depletion in the polar stratosphere"

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The purpose of this electronic supplement is to provide additional information on the mean ozone over the polar cap (see Figs. 1 and 2 of the main paper) for the Arctic in April (Fig. 1) and for the Antarctic in October (Fig. 2).

Further, we provide tabulated numbers for the values shown in several plots in the main paper for easier use. The ozone column and vortex data for individual years of the time slice experiments (shown in Fig. 6 of the main paper) are given in the file timeslice_column.tsv. The values for mean column ozone over the polar cap (see Figs. 1 and 2 of the main paper) are given in avg_o3column_march.dat (for the Arctic) and avg_o3column_october.dat (for the Antarctic). The minimum of the daily average ozone in spring poleward of a threshold value (see Figs. 8 and 9 of the main paper) are given in min_o3column_march.dat (for the Arctic) and min_o3column_october.dat (for the Antarctic). The Arctic data files also contain the values for V_{PSC} that are used in the paper. Finally, the file pfp.tsv provide the PFP values employed here (which constitute a slightly updated version of the values presented earlier, Tilmes et al. 2006).

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References

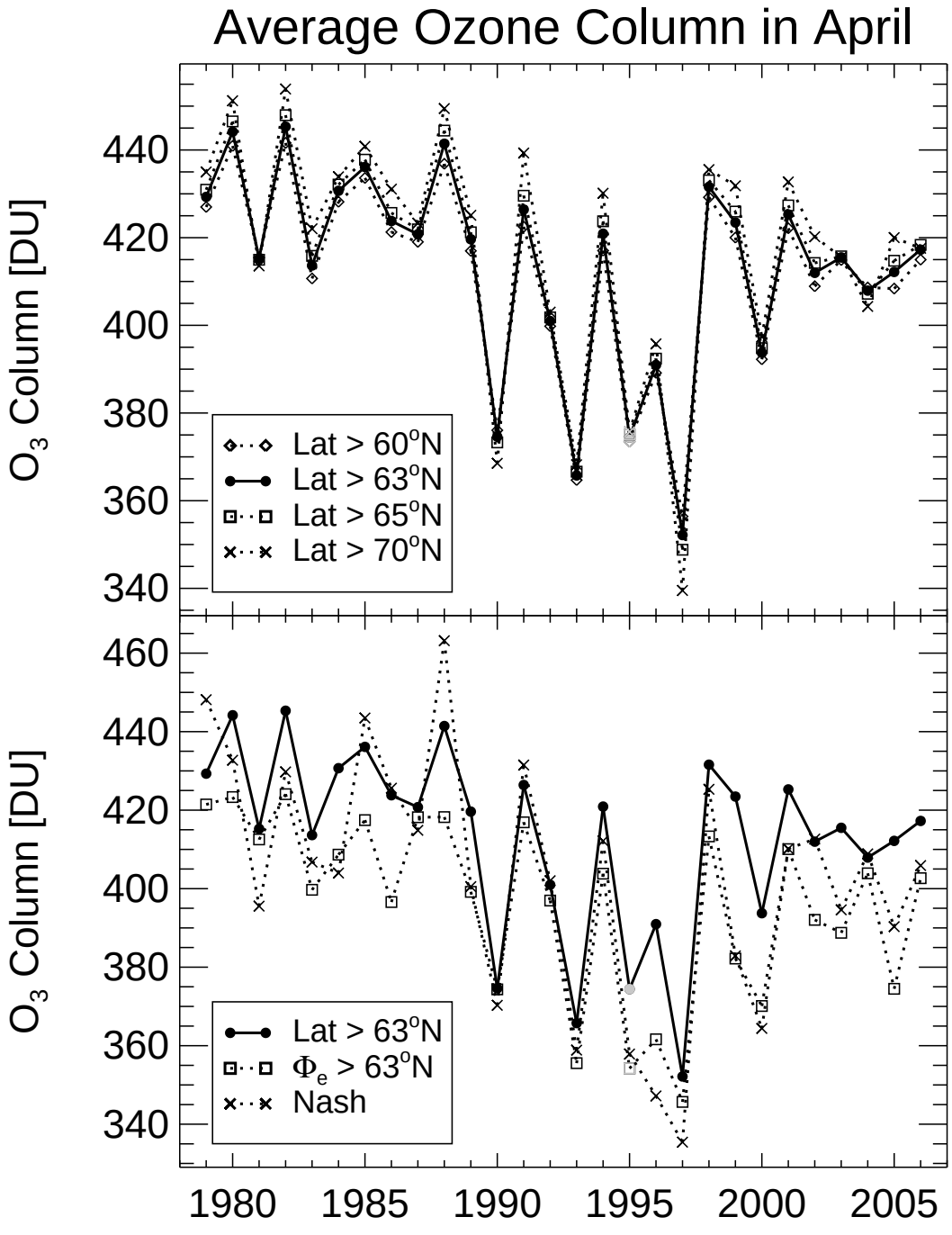
Tilmes, S., Müller, R., Engel, A., Rex, M., and Russell III, J.: Chemical ozone loss in the Arctic and Antarctic stratosphere between 1992 and 2005, Geophys. Res. Lett., 33, doi:10.1029/2006GL026925, 2006.

Figure Captions

Fig. 1. latitude boundary at 60°N, 63°N, 65°N, and 70°N. Bottom panel: the April mean of Arctic ozone for a latitude boundary at 63°N is compared with calculations using the equivalent latitude of 63°N and the maximum gradient in potential vorticity (applied on the 475 K potential temperature surface) as vortex edge definitions. All averages are area weighted averages.

Fig. 2. Top panel: the September mean of Antarctic ozone for a latitude boundary at 60°S, 63°S, 65°S, and 70°S. Bottom panel: the September mean of Antarctic ozone for a latitude boundary at 63°S is compared with calculations using the equivalent latitude of 63°S and the Nash-criterion (applied on the 475 K potential temperature surface) as vortex edge definitions.

Figures



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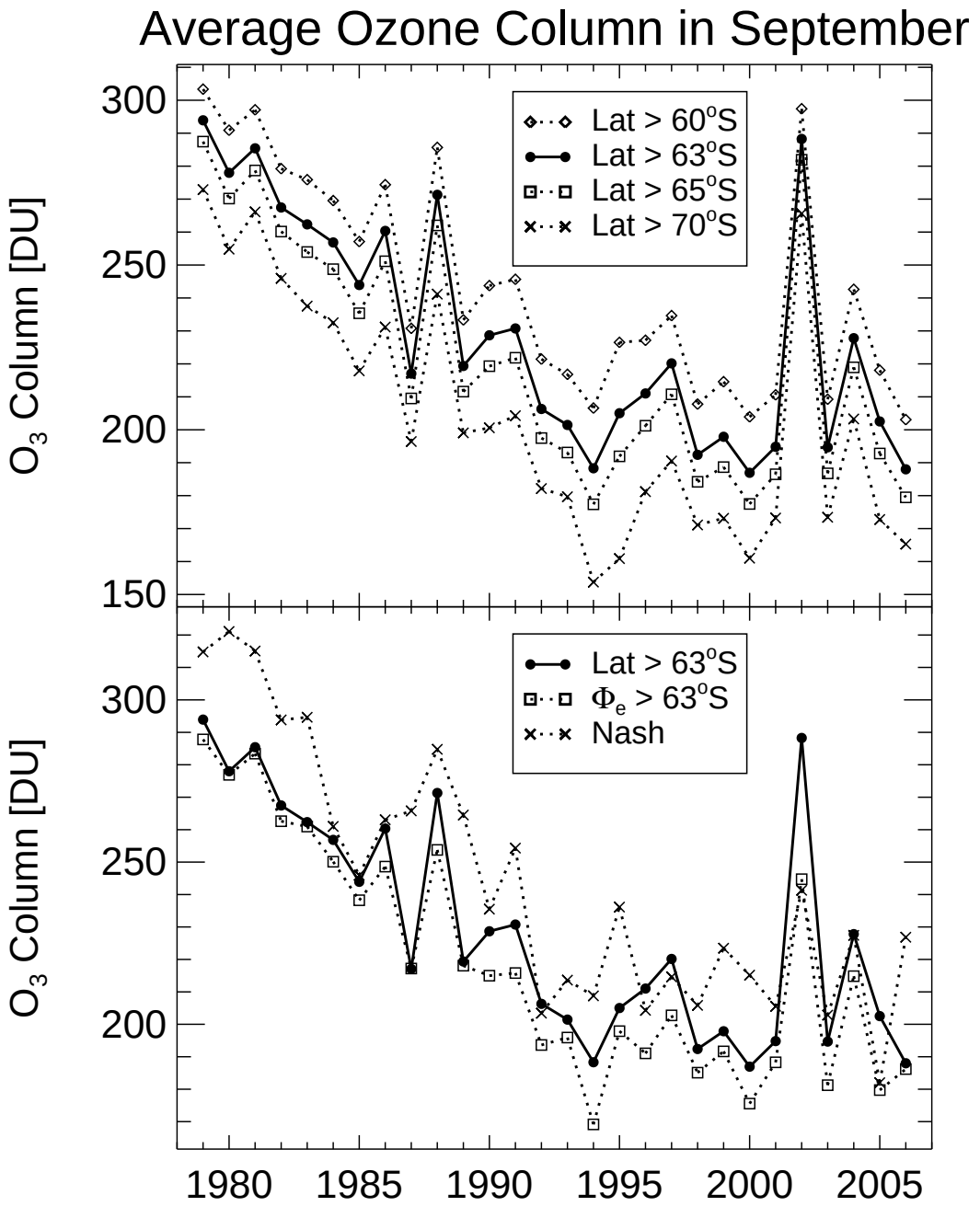

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