

Interactive comment on “The multi-seasonal NO_y budget in coastal Antarctica and its link with surface snow and ice core nitrate: results from the CHABLIS campaign” by A. E. Jones et al.

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The manuscript submitted by A. Jones and coauthors presents a new and potentially very interesting dataset regarding many components of the NO_y budget in coastal Antarctica. A thorough interpretation of these results would certainly lead to valuable enhancement of the understanding of sources and sinks of NO_y in this region of the world.

Having just read the review recently posted by both anonymous referees, I cut most of the general comment I had in mind since it would be mostly redundant with their reviews.

Still, I have a few additional comments that the authors will find below :

- p 4127 affiliation of A. Saiz-Lopez : has the Jet Propulsion Laboratory of California really moved to the UK ?
- page 4133, line 8 : since S. Bauguitte is a co-author of the present manuscript, it is rather surprising that some of his input is treated as "personal communication". In case the data are neither presented nor published, this should rather appear as "unpublished data (or results)".
- p 4138, line 6 : concentrations of nitrate in snow are expressed in 3 different units throughout the manuscript : for instance ppb (4138, line 6 and right y axis of figure 5), ng/g (page 4143, line 6) and ug/kg (left y-axis on figure 4b.). Although these units are all similar indeed, it is advised to keep the notation consistent throughout the manuscript. The best would probably be ng g^{-1} , not to interfere with atmospheric mixing ratios expressed in ppb and ppt throughout the manuscript.
- Comments about figures : on figure 1 it is advised to vary the shapes of the symbols (not only their color), since it makes the reading almost impossible in b&w printouts. the same applies for fig 5. On fig 4a and 4b, difference styles of lines (dotted, solid and so on) could be used so that b&w printouts are readable.
- Table 1 : technical details for the collection of p-NO_3^- , HONO and HNO_3 are quite minimal. It would be very advantageous to give more details, especially for HNO_3 and p-NO_3^- since no companion paper appears to be devoted to these data sets : for instance, regarding p-NO_3^- : which filters were used, at which flow rate ? this is important since some filters retain only p-NO_3^- (e.g. glass fiber and quartz fiber, Schaap et al. Atmospheric Environment 36 (2002) 1323– 1335) and some are believed to retain a significant fraction of gaseous HNO_3 in addition to p-NO_3^- (Whatman 41 cellulose filters, e.g. Schaap et al. Atmospheric Environment 36

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(2002) 1323–1335)). Nylon and teflon filters also behave differently. Also, regarding the HNO_3 measurements, what was the design of the denuders (chemical composition, flow rate ?). At least, references should be given to previous publications using similar techniques in the same environment.

- Table 2 : please state the unit (at least once). Apparently it's pptv but it would be nice to be sure ...

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 4127, 2007.

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