"Interactive comment on “Quantification of transport across the boundary of the lower stratospheric vortex during Arctic winter 2002/2003” by G. Günther et al.

Anonymous Referee #2

Received and published: 13 December 2007

‘Quantification of transport...’ by Gunther et al. is a generally clearly written paper that presents new results on transport from the polar vortex to midlatitude.

Major comments -I suggest to improve the presentation somewhat by mentioning more explicitly in the Introduction which questions are going to be answered in this paper. I general problem I have with the paper is that it contains rather long descriptive texts, without giving at the end of the chapters a summary or conclusions that can be drawn from this. This is particularly a problem with the long chapter 5. I recommend to divide this chapter into different sub-chapters, each with a informative title, starting the sub-chapter with the question that is going to be answered and ending with one or more
conclusions.

-In its present form, the manuscripts suggests that there is one (main) conclusion, which is the one of the last sentence in the abstract (by the way, here '6

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Minor comments p.17565, line 23: 'nert' must be 'inert' p.17567, line 24: Why 'Unfortunately'?. I assume because it would be nice if the second split would have been observed during the two campaigns. Perhaps it can be mentioned why this second split is so important. Fig. 11: I suggest to mention in the figure caps that the white lines are the flight track. It would be nice if the vortex boundary would be indicated in the figure (although the authors might also refer for this (at p. 17571) to Fig. 4)