

Interactive comment on “On the observation of mesospheric air inside the arctic stratospheric polar vortex in early 2003” by A. Engel et al.

R. Mueller

ro.mueller@fz-juelich.de

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This paper reports the finding that air was transported from the mesosphere to the Arctic stratospheric vortex in winter 2002/2003 in significant quantities. The finding is derived from the measurements of three different instruments during three independent balloon ascents in early 2003 and is moreover supported by model simulations.

The authors point out that the fact that mesospheric intrusions are detectable in stratospheric air in the polar vortex should have an impact on studies that are considering tracer-tracer relations to determine denitrification or chemical ozone loss. To determine the impact of mesospheric intrusions on estimates of ozone loss and denitrification derived using tracer-tracer relations, it would be very helpful to know how the ozone-

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tracer and the NO_y -tracer relation looks like for the balloon profiles that have probed the mesospheric air masses in early 2003. Therefore, I suggest that information on the ozone-tracer and the NO_y -tracer relation, as far as measurements are available, is included in the final version of the manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 7457, 2005.

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