

Interactive comment on “Highly resolved observations of trace gases in the lowermost stratosphere and upper troposphere from the Spurt project: an overview” by A. Engel et al.

Anonymous Referee #2

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Review of Engel et al., Highly resolved observations of trace gases in the lowermost stratosphere and upper troposphere from the SPURT project: and overview

The paper describes data collected during the SPURT experiment and discusses the make-up of the lowermost stratosphere at mid latitudes. Overall, the paper is fine and should be published in ACP. I've listed only a few minor comments below.

Page 5084...discussion on transport into the LMS...There is no mention of upward storm related transport in the mid latitudes...ie pyro convection, or simply very large cbs that penetrate the tropopause. There are several papers in the literature now (models

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studies by P.K. Wang, 2003 & 2004; observational studies by M. Fromm, 2000; analysis of NASA Crystal Face aircraft data by E. Ray, 2004; H. Jost, 2003)

Wording comments: Page 5087 line 4: states "which largely contribute"....Does this mean "are largely responsible for" (also could be "which significantly contribute")

Page 5101 (this can apply to several plots): It states that the O3 values in the 2-3 PVU region in spring and summer are 60% higher than in autumn and winter. It's kind of hard to see in the small plots. Would it be possible to have a table with the seasonal averages for a couple of equivalent latitude bands and in the 2-3 PVU layer? It seems that would make certain aspects of the discussion easier to see.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 5081, 2005.

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