

Interactive comment on “Transport of Antarctic stratospheric strongly dehydrated air into the troposphere observed during the HALO-ESMVal campaign 2012” by C. Rolf et al.

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The findings of many small scale features is an important result; it may be possible to use them to establish whether water is being conserved, lost by gravitation or even injected by upward transport. It is to be expected from the scale invariant character of wind, temperature and ozone in the polar night jet, see Q J R Meteorol Soc, 130, 2423-2444 [2004]. See Chapter 4, especially figure 4.4, for using the Hurst exponent to deduce the operation of sources and sinks, of "Atmospheric Turbulence: a molecular dynamics perspective", OUP, 2008. It would be interesting if these new data could be analysed to this end.

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