



On the suitability of water vapour and ozone data from SPURT and MOZAIC for the evaluation of atmospheric models

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A comparison of water vapour (H_2O) and ozone (O_3) concentrations observed during the SPURT aircraft campaigns and the MOZAIC programme is presented. The aim of the study is to identify the strength and weaknesses of both datasets in terms of accuracy and representativeness for the use in evaluating atmospheric chemistry and transport models such as CLaMS and MOZART in the UT/LS region.

The analysis addresses the variance on different time scales and the comparison of the tropopause referenced probability distribution functions (PDFs). The MOZAIC data reveal the influence of processes acting on diurnal, synoptical, seasonal and annual timescales for both tracers. The SPURT data set does not represent the full variance of H_2O in the UT/LS, whereas the variance of O_3 is much better represented. The SPURT H_2O data set is thus difficult to use for climatological investigations in the UT/LS. On the other hand are the SPURT H_2O data much better suited above the tropopause, where the MOZAIC sensor loses its dynamic range. First results will be presented for a comparison of the observations and simulations with the Lagrangian model CLaMS.