



Modelled and observed vertical ozone distribution in the troposphere over Europe

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Air Quality models are usually validated against surface measurements of air pollutants concentrations. Some validation of the vertical structure of the modelled atmosphere in terms of the distribution and stratification of trace gases concentrations is limited to the boundary layer. We will focus on problems that face air quality models with reproducing the ozone profile in the troposphere that can be connected with an insufficient representation of stratospheric-tropospheric exchange due to with too low model top as well as to an inappropriate top boundary conditions.

We will present the climatology of ozone vertical profiles in different locations across Europe based on the GEM-AQ model (Kaminski et al., 2008) calculation for the period 2008-2010. The core of the model domain covered the European continent with the resolution of 0.125 deg. Modelling results will be compared with ozone soundings from available stations.

Seasonal variability of the observed and modelled ozone profiles will be discussed. Also, variability patterns will be compared for different regions of Europe. An attempt will be made to correlate the bias of the ozone profile in the ABL with NO₂ column bias in corresponding locations.