Atmospheric Chemistry and Physics Discussions

Interactive comment on "Simulation of ozone production in a complex circulation region using nested grids" *by* M. Taghavi et al.

Anonymous Referee #2

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General comments:

The paper has been improved sinificantly but to my opinion, is still not ready for publication. Reading the text someone feels that he is reading a techincal report and not a scientific paper. It still includes parts that can be ommitted because they are known for years to the scientific community.

The objectives are not clearly stated and the innovative parts must be highlighted.

The introduction of the paper must be rewiritten,in order to be more specific on the objectives and the methodology followed in this work.

The conclusions is characterized by its simplicity and redudancy. I would suggest rewriting it by showing only the new findinfs that apply to other cases and not only to

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the specific one. Doing nesting simulations is not an innovative work today. Coupling of course is.

Specific comments:

The grammar should be checked carefully (e.g. "meteorological Situation" is better to be "meteorological condition".

The tests concerning one and two grid simulations gave results that are expected and nothing new is there. If they had extended the size of the outer domain the results should be even better because the lateral boundaries are away from the areas of interest. This is clearly indicated at their model/observations intercomparison during the last hours where the skill is lower probaly because of that.

What is the spatial resolution of the initial emission inventory used for the coarse grid GENEMIS database). Is it 15 km?

Plotting time series is more convenient for the reader to have the time axis in hours and not in seconds (flight plots). Now its almost impossible to spot the time during flight and model results. Uniform way of time tags is absolutely necessary.

As a cnclusion I have to say the follwing: This paper includes a great amount of effort. All RAMS users (and model users in general) can identify the difficulties of implementing a chemical model into the atmospheric model. This, together with the experimental field work show a new concept on air quality modeling. The results show very good agreement with observations. The poorer agreement at the end of the simulation period can be attributed to the domain size used and the advection ofthe lateral boundary conditions.

Finally, an additional simulation with offline chemistry modeling would show the differences or similarities with the presented approach.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 3833, 2003.