

Interactive comment on “Construction of an Eulerian atmospheric dispersion model based on the advection algorithm of M. Galperin: dynamic cores v.4 and 5 of SILAM v.5.5” by M. Sofiev et al.

M. Sofiev et al.

mikhail.sofiev@fmi.fi

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With this short response, we would like to thank Dr Harris for the review.

However, we feel that some comments ignore/contradict to what is explicitly stated in the paper and thus a substantial misunderstanding took place.

In particular, we would like to stress:

- the scheme has never been described before in any rigorous way. This is clearly said in the paper and also highlighted by the reviewer 2
- the list of the scheme advantages is provided in the paper upfront, including the added

value of its new extensions

- as stated in the paper, the scheme is implemented in SILAM - in full 3D configuration and certainly tested. The tests provided in the paper are just few examples, which (i) have analytic solution, (ii) important for chemical transport models, (iii) show upfront the scheme issues and strengths
- the selected test case of Lauritzen et al was taken as the very challenging exercise (as highlighted by its authors), specifically designed to reveal the weaknesses of the schemes that succeed the standard exercises, which are still to be provided for basic proof of the scheme performance.
- the scheme is entirely non-diffusive, which is stressed among its key advantages, therefore we do not understand the final remark at all.

Nevertheless, we would like to thank Dr.Harris for the comments, which will be taken into account in the revised paper. In particular, we will include more evaluation examples.

On behalf of all authors

Mikhail Sofiev

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