

Interactive comment on “ASAM v2.7: a compressible atmospheric model with a Cartesian cut cell approach” by M. Jähn et al.

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Many thanks for submitting this interesting article to GMD and many thanks to the reviewers for insightful and thorough reviews. I am afraid that I find that the responses to the reviews do not give sufficient consideration to the excellent points made by the reviewers. If the authors wish to submit a revised version, I would recommend that they take the reviewers comments alot more seriously. Sometimes the reviewers make 2 or 3 points in one and the authors only reply to one of the points. For example, referee 2 says:

"Given the focus on the cut cell capabilities of the model, it is rather important to see how the physics parameterisations such as the sub-grid scale model and the surface fluxes deal with this. Despite the detailed descriptions, there is relatively little detail or

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testing of this point. In particular, how does the interpolation in the cut cells affect the accuracy and conservative properties of the model? Some tests to prove this would be useful."

The authors respond concerning mass and energy conservation and suggest a new test case. (I would generally recommend using existing test cases unless there is a very good reason why a new test case is needed). However the authors do not say how they are going to demonstrate how the "interpolation in the cut cells affect the accuracy".

I would recommend that the authors focus very carefully on the numerics and dynamics presented in this paper with less emphasis on the parameterisations.

Both reviewers request more rigorous tests of the cut-cell numerical implementation which I agree with. Please consider this further, and stick with established, idealised test cases for which critical comparisons can be made.

Interactive comment on Geosci. Model Dev. Discuss., 7, 4463, 2014.

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