

***Interactive comment on “Verification of a non-hydrostatic dynamical core using horizontally spectral element vertically finite difference method: 2-D aspects” by S.-J. Choi et al.***

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Received and published: 10 June 2014

You explain clearly the motivation for using finite differences in the vertical, for coupling with existing physics packages. However I would also be interested to see if there are any problems with this technique, particularly if the direction splitting is less clear cut over steep orography. I would therefore like to see results of test cases with steeper orography, such as a resting stratified atmosphere over a steep hill, gravity waves over hills such as those described by Schar et al, MWR, 2002 and tracer advection over steep hills.

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Interactive comment on Geosci. Model Dev. Discuss., 7, 3717, 2014.

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