

## ***Interactive comment on “Development and evaluation of a hydrostatic dynamical core using the spectral element/discontinuous Galerkin methods” by S.-J. Choi and F. X. Giraldo***

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Many thanks for submitting this interesting article to GMD. Apologies that these editorial comments are late.

Reviewers 2 and 3 make some critical comments, suggesting some more stringent testing, which I would like the authors to address in some major revisions to the paper.

I would also like the authors to revise the article in line with the final version of the article: [gmd-2014-91](#) "Verification of a non-hydrostatic dynamical core using horizontally spectral element vertically finite difference method: 2D Aspects" which illuminated some of the accuracy constraints associated with the CG/FD combination. The review-

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ers of [gmd-2014-90](#) were interested to see how small the differences between the DG and CG formulations were. Could this be because the errors are swamped by the FD errors in the vertical?

[gmd-2014-91](#) motivated the CG/FD combinations and then showed some serious problems with the formulation. Based on [gmd-2014-91](#), I expect the authors of [gmd-2014-90](#) to motivate the use of FD in the vertical much more carefully, bearing in mind the results of [gmd-2014-91](#).

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Interactive comment on Geosci. Model Dev. Discuss., 7, 4119, 2014.