Corrigendum

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Submitted to the Journal of Atmospheric Sciences

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The quantitative comparison of initial errors in the velocity fields at 400 km, 10 km and 10 cm in Durran and Gingrich (2014) are incorrect because the square-root operator was not applied to convert kinetic energy (KE) values to velocities. The required quantitative corrections do not change our basic conclusions. The second paragraph of the Conclusions should be revised as follows.

As evident from Experiment B in L69, but largely overlooked since, a small *absolute error* in the KE' spectral density produces almost the same loss in predictability no matter what its scale. Since the background saturation kinetic energy density is much bigger at longer wavelengths, very small *relative* errors in the large scales can have the same impact on predictability as saturated errors in the small scales. For example, consider a relative error of 100% in both the perturbation velocities and the KE' spectral density at a wavelength of 10 km. Assuming a $k^{-5/3}$ KE spectrum, the same absolute error in the perturbation velocities at 400 km corresponds to a relative error of $\left([(2\pi/10)/(2\pi/400)]^{-5/3}\right)^{1/2}$. Thus, according to L69, RS08 and the ssLRS models, 4.6% errors in velocities around nominal scales of 400 km would have a similar impact on predictability as 100% errors in velocities at scales around 10 km. If one pushes the comparison well past the limits of validity of the ssLRS model and imagines that butterflies all over the world are flapping in coordination to generate a 100% relative error at a wavelength of 10 cm, a roughly equivalent impact on predictability would be exerted by a tiny 3.1×10^{-4} % relative error in the perturbation velocities at a wavelength of 400 km. In any real-world event, the contributions of butterflies to uncertainties in initial conditions would be completely dwarfed by errors in the larger scales.

REFERENCES

Durran, D. R. and M. Gingrich, 2014: Atmospheric predictability: Why butterflies are not important. *J. Atmos. Sci.*, **71**, 2476–2488.