CORRIGENDUM

JOSEPH ANDERSEN

Department of Physics, Harvard University, Cambridge, Massachusetts

ZHIMING KUANG

Department of Earth and Planetary Sciences, and School of Engineering and Applied Sciences, Harvard University, Cambridge, Massachusetts

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We have noticed that the following error was made in Andersen and Kuang (2008). The calculation of the Rossby wave divergence and vorticity fields as plotted in Fig. 15 was erroneous. A corrected version of Fig. 15 is shown below. While this change does not alter the major conclusions of the paper, there are some changes necessary to our interpretations in section 4f, including the addition of Fig. 16.

The second full paragraph on page 3754 (beginning ''It is interesting to note ... '') should be replaced with the following paragraph:

It is interesting to note that the growth rates of the Rossby waves are greater at longer wavelengths. This can be explained by considering how the wave energy generated per unit divergence and the divergence increase per unit energy increase vary with wavenumber. For Kelvin waves, the wave energy generated per unit divergence is proportional to $1/k$, while the divergence increase per unit energy increase is proportional to k, leading to constant growth rates. Although for very long wavelength Rossby waves the divergence per unit wave energy is small relative to the Kelvin waves, the growth rate is still high because the wave energy generated per unit divergence is higher relative to the Kelvin waves (Fig. 16). The wave energy generation per unit divergence decreases very rapidly with wavelength (relative to the Kelvin waves) because of the rapid decrease with wavelength in temperature anomaly per unit divergence (see Fig. 15; in this simplified case, temperature and heating are collocated). However, the fraction of energy that is sent to the divergent flow (again normalized by that of the Kelvin waves) actually increases with wavenumber until intermediate wavelengths (around $k = 7$), slowing the decrease in growth rate. At large wavenumbers, both these terms are small, leading to small growth rates.

Section 5 also requires a small amendment. The second paragraph on page 3756 (beginning ''With the addition of our energy ... '') should read as follows:

With the addition of our energy flow divergence feedback mechanism, the basic shape of the wave spectrum is starting to become clearer. The linear part of the spectrum is shaped by the combined actions of moist convective damping, which damps high-frequency waves; the damping effect of the second-mode convective heating on the midtropospheric moisture anomalies, which damps more strongly the lowest-frequency waves; the intertropical convergence zone (ITCZ) projection effect; and the energy flow feedback effect, which selects the wave types with larger divergent and/or geopotential components. In more realistic cases, the heating is not in general coincident with the temperature (or geopotential) field, so it will also be necessary to consider the spatial correlation between the two.

We have also noticed some typographic errors that do not affect the main results:
The final equality in Eq. (46) should read

$$\cdots = \frac{H}{2}\sqrt{\frac{c\pi}{\beta}}u_0^2.$$

Equation (47) should read

Corresponding author address: Joseph Allan Andersen, Department of Physics, Harvard University, Cambridge, MA 02138.
E-mail: jaanders@fas.harvard.edu

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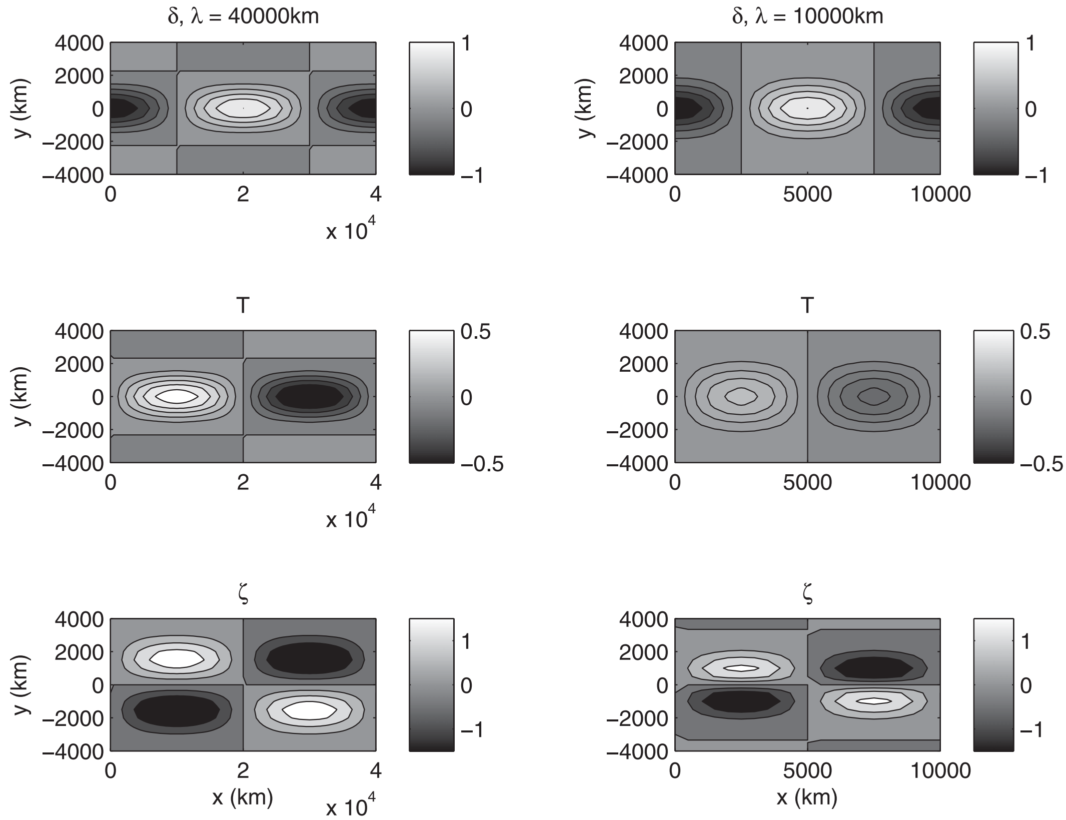

FIG. 15. (Revised) (top) Analytic divergence, (middle) temperature, and (bottom) vorticity fields for dry equatorial Rossby waves with (left) $\lambda = 4 \times 10^4$ km and (right) $\lambda = 1 \times 10^4$ km. It is important to note that the x axes of the two columns have different scales, as demanded by the very different wavelengths depicted. Scale is in arbitrary units, normalized by the maximum divergence of the $\lambda = 4 \times 10^4$ km wave.

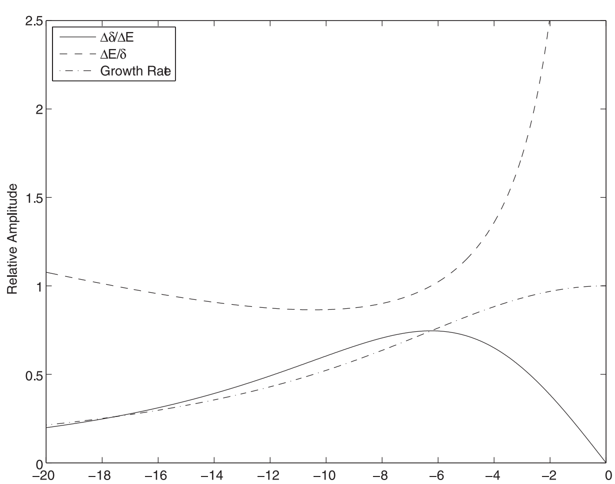

FIG. 16. Relative amplitudes of the generation of wave energy per unit perturbation divergence ($\Delta E/\delta$; dashed); the flow of energy into the divergent part of the wave per unit energy generation ($\Delta E/\delta$; solid); and the product of these two quantities (dashed–dotted), which is equal to the divergence growth rate, as shown in Fig. 14, for the $n = 1$ Rossby waves, normalized by the same values for the Kelvin wave (at the corresponding absolute wavenumbers).

$$\Delta E = \overline{JT}\Delta t = \frac{\overline{B|\delta|T^2\Delta t}}{\omega|T|} = \frac{B|\delta|cu_0}{\omega}\overline{e^{(-\beta y^2/2c)}\cos^2(kx-\omega t)}\Delta t$$
$$= \frac{B|\delta|u_0\Delta t}{2k}\sqrt{\frac{c\pi}{\beta}}.$$

Then, the c in the numerators of Eqs. (48) and (51) should be deleted.

Equation (58) should read

$$\Delta E = \overline{JT}\Delta t = \frac{Bc^4 v_0|\delta|\Delta t}{4\beta\omega(\omega - ck)}.$$

The final term in the numerator of Eq. (64) should be $3\omega_{n=1}^2$.

The authors apologize for any inconvenience these errors may have caused.

REFERENCE

Andersen, J. A., and Z. Kuang, 2008: A toy model of the instability in the equatorially trapped convectively coupled waves on the equatorial beta plane. *J. Atmos. Sci.,* **65,** 3736–3757.