CORRIGENDUM

RIWAL PLOUGONVEN

Laboratoire de Météorologie Dynamique, Ecole Normale Supérieure, Paris, France

DAVID J. MURAKI

Simon Fraser University, Burnaby, British Columbia, Canada

CHRIS SNYDER

National Center for Atmospheric Research, Boulder, Colorado

In Plougonven et al. (2005), normal modes of a linear vertical shear in the linearized primitive equations for a rotating stratified fluid above a rigid lower boundary were described. These modes couple balanced motions near the ground, resembling an Eady edge wave (e.g., Gill 1982) and gravity waves aloft. The two different types of motions connect at the inertial critical level.

The amplitudes of the gravity waves in these modes were obtained analytically: they were given by Eq. (21) of Plougonven et al. (2005) for the case of neutral modes in the presence of a lid at a specific height, and in (B8) for radiating modes.

As the full analytical expressions were cumbersome, their asymptotic behaviors for small Rossby number $\mathcal{R}$ were obtained [(22) and (23) in Plougonven et al. (2005)]. Two errors appear in the prefactors to the exponential in these expressions. Equation (22), for neutral modes with zero meridional wavenumber ($l = 0$), should read:

$$|\alpha_n(\mathcal{R}, k, \overline{\Lambda})| \sim \sqrt{\frac{k}{\overline{\Lambda}}}\,\frac{1}{\sqrt{\mathcal{R}}}\,e^{-(\pi/2\mathcal{R}\overline{\Lambda})}, \quad \text{for} \quad \mathcal{R} \to 0, \qquad (1)$$

where $\mathcal{R}$ is the Rossby number, k and $\overline{\Lambda}$ are the nondimensional zonal wavenumber and vertical shear, re-

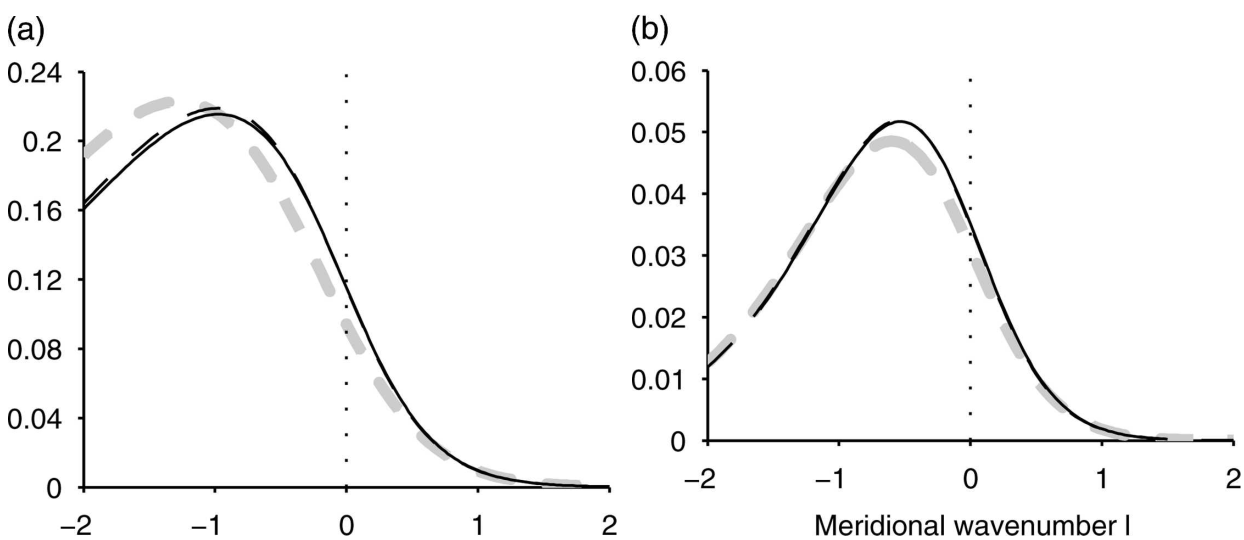

FIG. 1. Amplitude of the gravity waves ($|\alpha_u|$) relative to the balanced motions in the radiating unstable modes, for (left) $\mathcal{R} = 0.6$ and (right) $\mathcal{R} = 0.4$. The numerical solution (plain line), the analytical solution (dashed line) and the corrected asymptotic expression (thick, gray dashed line) are shown. This figure is to be compared to the first two panels of Fig. 8 in Plougonven et al. (2005).

Corresponding author address: Riwal Plougonven, Laboratoire de Météorologie Dynamique, Ecole Normale Supérieure, 24 rue Lhomond, 75231 Paris CEDEX 05, France.
E-mail: riwal@melix.org

spectively. An erroneous factor $(2\sqrt{2})$ has been removed.

Equation (23), for radiating unstable modes, should read:

$$|\alpha_u(\mathcal{R}, k, l, \overline{\Lambda})| \sim \sqrt{\frac{k^2 + l^2}{k^2}}\, e^{-(\pi l/2k)} \sqrt{\frac{k}{\overline{\Lambda}}} \frac{1}{\sqrt{\mathcal{R}}} e^{-(\pi/2\mathcal{R}\overline{\Lambda})\sqrt{1+(l^2/k^2)}}, \quad \text{for} \quad \mathcal{R} \to 0. \tag{2}$$

The correction here is a factor $\sqrt{(k^2 + l^2)/k^2}$, which modifies somewhat the dependence in l. [Correspondingly, a factor $\sqrt{1 + l^2}$ should be included in expression (24), where $k = 1$ for simplicity.]

The above corrections make it clear that (2) reduces to (1) for $l = 0$. The correction to (23) makes the asymptotic expression closer to the analytic one when the meridional wavenumber l is nonzero. This can be seen in the present Fig. 1, which is to be compared to the first two panels of Fig. 8 in Plougonven et al. (2005).

Nevertheless, these corrections do not imply any changes to figures other than Fig. 8, or to any part of the discussion and conclusions. In particular, they do not change the dependence of the gravity wave amplitude on the Rossby number.

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