

**Authors minor change to the manuscript Atmos. Chem. Phys. Discuss. 2016-287  
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The manuscript shows in Figure 13 the vertical profile of a barotropic Rossby wave in the absence of vertically-sheared zonal flow in order to compare it with the vertical profile of the Rossby wave obtained in the manuscript for the real atmosphere. The former vertical profile was plotted in the manuscript as proportional to  $p^{-1/2}$ , whereas indeed it should be proportional to  $p^{-2/7}$ . This vertical profile, as it was plotted in the manuscript, was indeed only valid for Rossby waves propagating in the vertical direction (i.e., no barotropic). This change does not affect the arguments, results or conclusions of the manuscript.

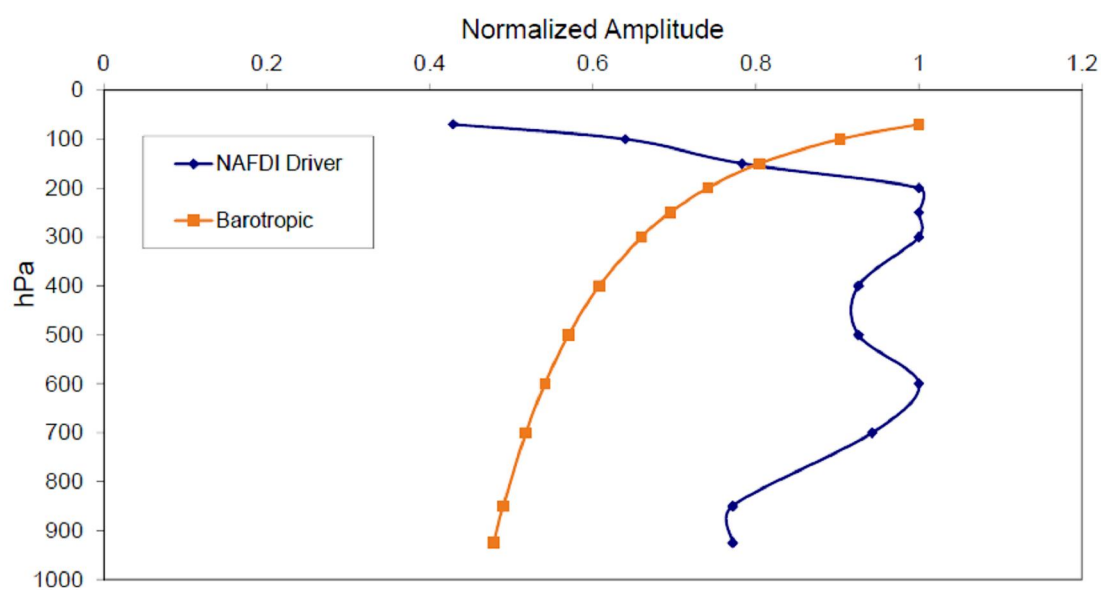
The minor modifications proposed are described in detail below in order to be strictly rigorous in the manuscript (even for this accessory vertical profile). These minor modifications entail: 1) a small change in the text of the main manuscript; 2) a modified plot of the mentioned vertical profile; 3) Supplement: two changes in the text and addition of a curve in a figure.

**Main manuscript:**

Page 26, lines 6-7. Where it says:  $\tilde{\omega}$  in an isothermal atmosphere with a uniform zonal flow, it should say:  $\tilde{\omega}$  in an isothermal and static atmosphere.

Page 58, lines 3. The change indicated in the previous paragraph is also applied to Fig. 13 caption.

Page 58, Figure 13. A new version of this figure replacing the previous one is presented here: the curve called barotropic is now slightly different (it is now  $p^{-2/7}$  instead of  $p^{-1/2}$ ).



## Supplement:

Page 11, lines 19-20. Where it says "In the absence of vertical shear of the background zonal wind, the function  $\psi(z)$  is equal to a constant", it should say "In the absence of background zonal wind, the function  $\psi(z)$  is equal to  $(p/p_r)^{3/14}$ ".

Page 12, lines 11-14. Where it says "In case there is no thermal wind (i.e., the zonal velocity is constant in pressure),  $\psi(z)$  becomes a constant, whereas for the external Rossby modes obtained by Geisler and Dickinson (1975) when there is thermal wind (see their Figure 10),  $\psi(z)$  has a significant maximum in the lower, middle and/or upper troposphere", it should say "In the case of no zonal velocity,  $\psi(z)$  depends much less on  $z$  than in the case with zonal thermal wind (for the latter, see Figure 10 of Geisler and Dickinson, 1975, which corresponds to external Rossby modes; for the former, see the curve denoted as "Barotropic" in Figure S12 of this Supplement). In the latter case (thermal wind),  $\psi(z)$  has a relatively prominent maximum in the lower and middle troposphere (see also the curve denoted as "NAFDI Driver" in Figure S12)".

Page 23, Figure S12. For reference, we have added a new curve to this figure, corresponding to  $\psi(z)$  for the case of no zonal velocity (barotropic).

