Corrigendum: Boundary Effects in Potential Vorticity Dynamics

TAPIO SCHNEIDER[*]

California Institute of Technology, Pasadena, California

(10 October 2007)

In the text following Eq. (10) and in footnote 4 of Schneider et al. (2003), there is an error regarding the representation of the field $\mathbf{H}$ in isentropic coordinates. This error affects the interpretation of the field $\mathbf{H}$ in Gauge I (p. 1027) but has no other consequences for the developments of this paper.

Contrary to what is stated in the text following Eq. (10), the explicit time derivative $\partial_t \theta$ would appear in a representation of the field $\mathbf{H}$ in isentropic coordinates and would give rise to a term proportional to $\partial_t z|_\theta$. Therefore, the statements in footnote 4 about the field $\mathbf{H}$ are only valid in a steady state, when the explicit time derivatives vanish. However, the term involving $\partial_t z|_\theta$ in the representation of the curl $\boldsymbol{\nabla} \times \mathbf{H}$ in isentropic coordinates cancels an identical term in a representation of $\partial_t \mathbf{D}$ in isentropic coordinates in the Maxwell equation (4b), so a gauge field $\mathbf{A}$ in the gauge transformation (5) can be chosen such that the statements in footnote 4 are correct in isentropic coordinates.

REFERENCES

Schneider, T., I. M. Held, and S. T. Garner, 2003: Boundary effects in potential vorticity dynamics. *J. Atmos. Sci.*, **60**, 1024–1040.

---

[*]*Corresponding author address:* Tapio Schneider, California Institute of Technology, Mail Code 100-23, 1200 E. California Blvd., Pasadena, CA 91125. E-mail: tapio@caltech.edu