

ERRATA

The dispersion relation for internal acoustic-gravity waves in a baroclinic fluid

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- The quantity ρ_θ used in the paper [*Jones(2001)*] is not the usual potential density, defined as the density the fluid would have if brought to a standard pressure (say at sea level), but instead is the potential density relative to the point where the fluid actually is. The correction required is to replace ρ_θ by $\tilde{\rho}_\theta$ everywhere in the paper, where $\nabla\tilde{\rho}_\theta \equiv \nabla\rho - \nabla p/c^2$.

- The 5th element in each of the 3 column vectors in equation (16) should be

$$\left(\frac{\rho}{\rho_s}\right)^{-1/2} \frac{\delta p}{\rho_s C C_s}.$$

- The following matrix should be added to the first matrix in equation (16).

$$\begin{pmatrix} 0 & 0 & 0 & 0 & -\frac{i}{C} \frac{\partial C}{\partial x} \\ 0 & 0 & 0 & 0 & -\frac{i}{C} \frac{\partial C}{\partial y} \\ 0 & 0 & 0 & 0 & -\frac{i}{C} \frac{\partial C}{\partial z} \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\frac{i}{C^2} \frac{DC}{Dt} \end{pmatrix}$$

References

- [*Jones(2001)*] Jones, R. M. (2001), The dispersion relation for internal acoustic-gravity waves in a baroclinic fluid, *Phys. Fluids*, *13*, 1274–1280.