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Erratum: "Demarcating Circulation Regimes of Synchronously Rotating Terrestrial Planets within the Habitable Zone" (2018, ApJ, 852, 67)

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Due to a transcription error, the published form of Equation (8) was incorrect. The results and conclusions are unaffected, as this error was in transcription only and did not influence the calculations. The correct definition of the equatorial Rossby deformation radius, λ_R, should be written as

$$\lambda_R^2 = \frac{\sqrt{gH}}{2\beta}, \tag{1}$$

where H is atmospheric scale height, $\beta = 2\Omega$ represents the Coriolis parameter at the equator, and $g = 9.81\ \mathrm{m\ s^{-2}}$. This equation follows the expression derived by Gill (1982) from the shallow-water equations, which is written as $\lambda_R^2 = c/(2\beta)$ with $c^2 = gH$. The corrected Equation (1) can also be expressed in terms of the Brunt–Väisälä frequency, $N^2 = \frac{g}{\theta}\frac{\partial\theta}{\partial z}$, where θ is potential temperature. By approximating scale height as $H = g/N^2$, this gives a congruent expression for the equatorial Rossby deformation radius as

$$\lambda_R^2 = \frac{NH}{2\beta}. \tag{2}$$

Equation (2) is identical to the expressions for λ_R given by Equation (6) from Edson et al. (2011) and Equation (17) from Carone et al. (2015).

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