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Spinup of a stratified fluid in a sliced, circular cylinder M.R. FOSTER, The Ohio State University, R.J. MUNRO, University of Nottingham — Experiments were performed in a linearly salt-stratified fluid in a circular cylindrical tank, with a planar bottom boundary sloped at a small angle α to the horizontal. The container rotated initially at an angular velocity Ω, so that the Ekman number, E, was typically 10^{-5}. We examined the adjustment when the container's angular speed is abruptly increased by $\epsilon\Omega$, with $\epsilon \sim .01$. Further, $\alpha \gg E^{1/2}$, and the Burger number S is large. There are similarities and differences between this spinup and that in a sliced square cylinder (Munro & Foster, *Phys. Fluids* **26**, 2014, denoted by MF14). Unlike MF14, the axisymmetry of the initial core motion means there are no core eddies generated by boundary-layer eruption. In fact, since the core motion is nearly axisymmetric for all time at large S, eddy formation is confined to the region of height $\mathcal{O}(S^{-1/2})$ near the lower slope, within which the Rossby waves are confined. Just as in MF14, after several "spinup times," the cross-container velocity profiles agree very well with a linear asymptotic theory for small ϵ, E and large S, provided one properly accounts for the Rayleigh layers on the cylinder's sidewall.

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