**Tangential oscillations of a circular disk in a viscous stratified fluid** STEFAN LLEWELLYN SMITH, Department of Mechanical and Aerospace Engineering and Scripps Institution of Oceanography, UCSD, TONY DAVIS, Department of Mechanical and Aerospace Engineering, UCSD — A complete solution is obtained for the wave field generated by the time-harmonic edgewise oscillations of a horizontal circular disk in an incompressible stratified viscous fluid. The linearized equations of viscous internal waves and the no-slip condition on the rigid disk are used to derive sets of dual integral equations for the fluid velocity and vorticity. The dual integral equations are solved by analytic reduction to sets of linear algebraic equations. Asymptotic results confirm that this edgewise motion no longer excites waves in the small-viscosity limit. Broadside oscillations and the effect of density diffusion are also considered.

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