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Some Effects of Stratification on Long Trench Waves

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ABSTRACT

The characteristics of long, gravest mode trench waves in the presence of realistic stratification are investigated. Two examples are computed, representing cases with widely differing importance of baroclinic effects. In both cases the wave-related alongshore velocity structure becomes noticeably bottom intensified, but much less so for the high latitude (smaller internal Rossby radius of deformation) Aleutian trench example than for the low latitude (larger Rossby radius) Peru trench example. Some consequences of the bottom trapping are then discussed.

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