## Abstract View

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# Instability of Baroclinic Flows with Horizontal Shear Along Topography

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ABSTRACT

The stability of baroclinic flows with horizontal shear over sloping topography is analyzed with special emphasis on the structure and energetics of the unstable perturbatiorts. The study is conducted by using a linearized two-layer quasi-geostrophic channel model for different topography profiles and distributions of the basic velocity field. Interactions between the two fluid layers and the energy conversions by the unstable porturbations are described. It is found that topography sloping as (opposed to) the fluid interface contributes to enhance the perturbation amplitude in the upper (lower) layer relative to the lower (upper) layer. The results for bottom topography with dithering characteristics across the flow indicate pronounced localized effects on the energy conversions over the slopes and the meridional scale of the perturbations in the lower layer.