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Instability of geophysical flows at arbitrary latitude. (English) Zbl 1439.37084
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Summary: In this paper, we present an exact solution of the nonlinear governing equations for the geophysical waves propagating above the thermocline toward the east at arbitrary latitude. Based on the short-wavelength instability approach, we demonstrate the criteria for the hydrodynamical instability of such water waves.

MSC:

- 37N10 Dynamical systems in fluid mechanics, oceanography and meteorology
- 74G05 Explicit solutions of equilibrium problems in solid mechanics
- 76B15 Water waves, gravity waves; dispersion and scattering, nonlinear interaction
- 76E20 Stability and instability of geophysical and astrophysical flows
- 76U60 Geophysical flows

Keywords:

geophysical flows; thermocline; instability

Full Text: [DOI](#)

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