

Abstract Submitted
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Energy Cascade in the Regime of Realistic Ocean Circulation¹

B.T. NADIGA, W.R. CASPER, Los Alamos National Lab — Ocean circulation is forced at the large scales and the instability of the resulting large-scale flow gives rise to intermediate-scale eddies. The large-scale flow and the resultant eddies are both in approximate geostrophic balance; such balance results in an inverse cascade of energy. Consequently, small scale dissipation becomes ineffective and dissipation is limited to interactions of the larger and intermediate scale flow structures with solid boundaries. We consider the modification of this asymptotic behavior in the presence of a range of scales over which unbalanced motions are possible.

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B.T. Nadiga
Los Alamos National Lab

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