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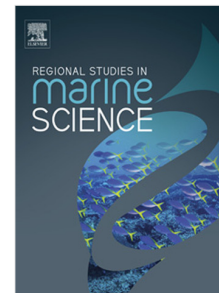
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Abstract

The dynamic characteristics of the internal gravity waves (IGW) in the northwestern part of the Sea of Japan are considered on the basis of on the results of the experimental data processing. The temporal intermittency of internal waves is demonstrated, when intensive nonlinear high-frequency waves appear during the background low-frequency fluctuations. The direction, in which energy of these waves is transferred, is determined. It is shown that intensity of IGW changes in time periodically and is connected with the cycles of barotropic tide.

Keywords: internal gravity waves, the Sea of Japan, coastal zone.

1 Introduction

Internal gravity waves in the coastal zones play an important role in water structure formation and, as a corollary, in life activity of marine ecosystems. The study of IGW in the ocean has been remaining one of the central tendencies in oceanography over the past several decades (Massel, 2015; Yang et al., 2017). The role of IGW is particularly great for the ocean shelf zones. In contrast to the deep ocean, in the coastal sea areas the barotropic currents interacting with the bottom irregularities generate vertical components of fluid particles displacement, which leads to a shift of isopycnic surfaces and the formation of internal waves (Novotryasov et al., 2016). IGW moving towards the coast are under the influence of significant non-linear transformations, and acquire the form of bores, solitons and other soliton-like structures. Such non-linear

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