三陸沿岸における内部潮汐について
Internal tides along the Sanriku Coast, Japan

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Hydrographic observations made in several bays (e.g. Otsuchi bay, Toni bay) on the Sanriku Coast, Japan, detected that baroclinic circulations extending over the bays intermittently occur (e.g. Okazaki, 1990, 1994; Tanaka et al. 2016). Previous studies suggest that the main source of this baroclinic circulation is the internal tides (Okazaki, 1990, 1994; Otobe et al., 1996, 2009; Ito et al., 1998), however, detailed mechanisms are not clear. In the present study, we perform numerical experiments with a two-dimensional (x-z) nonhydrostatic model (Akitomo et al. 1995) in order to investigate the internal tides along the Sanriku Coast focused on the amplification process of the baroclinic circulation over the bays. Experimental results (Figure 1) indicate that the internal waves enhance the baroclinic circulations over the bays. This internal waves are generated at the shelf break and propagate to the bay mouth.

キーワード：内部潮汐、三陸、陸棚外縁、非静水圧モデル
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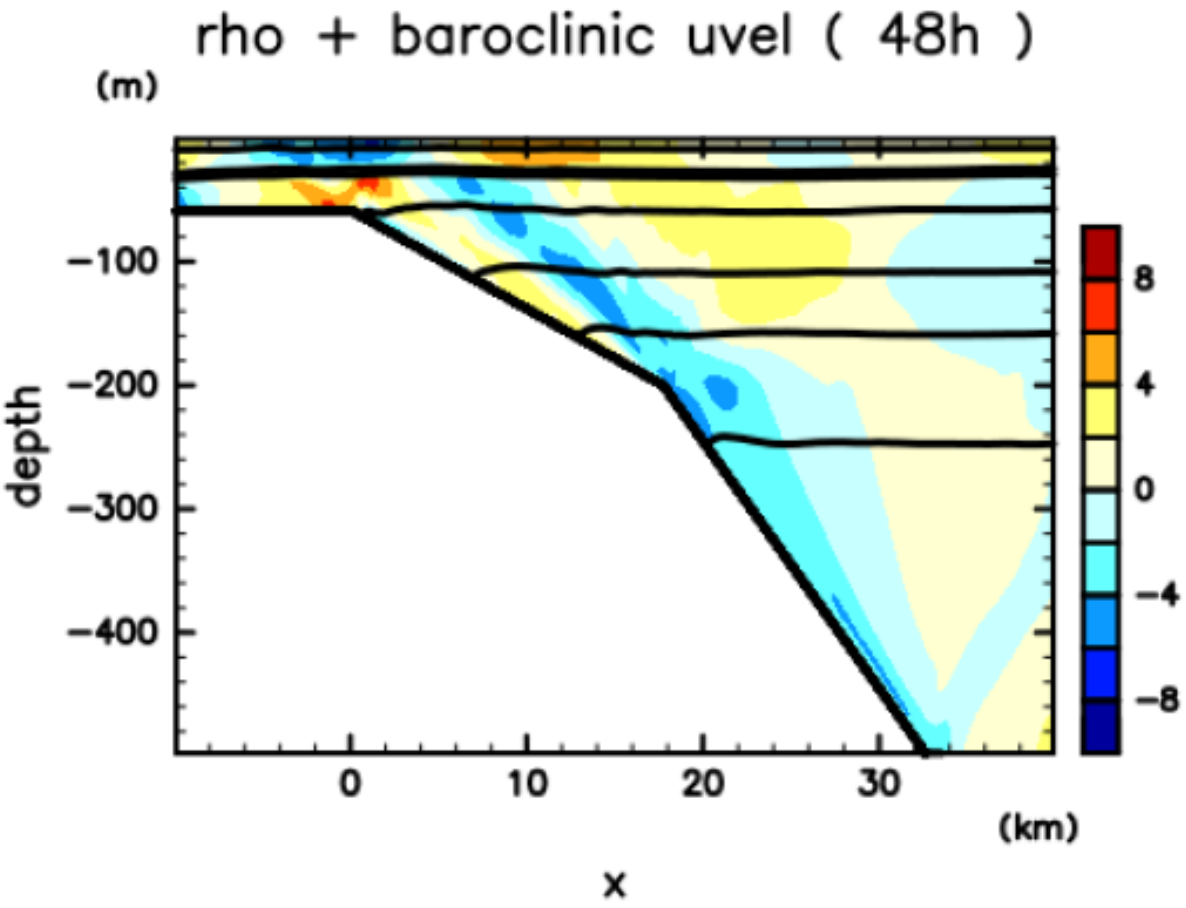

Figure 1. Experimental results of baroclinic cross-shore velocity (color tone, cm/s) and potential density (contour, contour interval 0.5 kg m^{-3})

