

The authors analyzed evolution of ocean internal solitary wave along a shoaling continental slope using a parameterization analysis method and the continental shelf of the northern South China Sea (SCS) as a test area. The method and results are of a certain value. However, the manuscript was not prepared well for publication.

1. Introduction is redundant and loses logic. It should be re-written after gaining more information.
2. The authors failed in literature hunting, so that they seem not to be familiar with solitary wave theories and progress in research of internal waves in the SCS. Thus, this reviewer recommends the authors at least to read the following publications:

Wang J., Huang W., Yang J., et al. 2012. Study of the propagation direction of the internal waves in the South China Sea using satellite images. *Acta Oceanologica Sinica*, 32, 42-50, doi: 10.1007/s13131-013-0312-6.

Zhao Z. 2014. Internal tide radiation from the Luzon Strait. *Journal of Geophysical Research: Oceans*, 119, 5434–5448, doi:10.1002/2014JC010014.

Zheng Q., Susanto R. D., Ho C.-R. et al. 2007. Statistical and dynamical analyses of generation mechanisms of solitary internal waves in the northern South China Sea. *Journal of Geophysical Research: Oceans*, 112(C03), C03021, doi: <https://doi.org/10.1029/2006JC003551>.

Zheng Q. 2017. *Satellite SAR Detection of Sub-mesoscale Ocean Dynamic Processes*. London: World Scientific, Chapters 6 and 7.

Zheng (2017) may help knowing comprehensive information on the ocean internal waves. Zheng et al. (2007) may help understanding theories of evolution of internal solitary waves along the shoaling thermocline or topography. Wang et al. (2012) and Zhao (2014) may help understanding that the internal waves may occur anywhere along the continental shelf of the SCS, not only in the Luzon Strait.

By the way, Junmin (2003) in the manuscript should be Meng and Zhang (2003).

3. Scientific term “wave breaking” was not clearly defined in the manuscript. There would be two different cases. 1) In the case of linear waves, wave breaking means that a wave loses a part of amplitude and becomes a smaller wave. 2) In the case of solitary waves, wave fission means that a large soliton evolves into a packet of smaller solitons. Looking at Figure 4 of the manuscript, one can see that the studied case should belong to the second case. Thus, the energy increment (might not be loss) before and after fission of an incident solitary wave should be calculated by

$$\Delta E = \sum_{i=1}^n E_i - E_0,$$

where  $n$  is the total number of small solitary waves after fission,  $E_i$  is the total energy of the  $i^{\text{th}}$  solitary wave, and  $E_0$  is the total energy of the incident large solitary wave.

4. The English writing is far to reach a publishable level. There are too many grammar errors and wrong wordings.

Owing to above severe flaws, this reviewer cannot recommend the manuscript for publication.