

## ***Interactive comment on “A modelling study of eddy-splitting by an Island/Seamount” by Shengmu Yang et al.***

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We are very grateful to your time and efforts. Your comments will greatly help us to improve our present manuscript and further work. We will consider your comments carefully and improve our manuscript following your (and others') comments.

General comments

(1) The “Introduction” section provides. . . The paper primarily focuses on. . .

Reply: The eddy-topography interaction is affected by many factors. This study focuses on the influences of island/seamount on eddy splitting. Your comments benefit our improvement and we will correct the deficiencies in the introduction in the revised version.

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(2) A major conclusion of the study. . . The question to ask is. . .

Reply: In the section 4.3 of the paper, we compared interactions between different sized eddies and islands. When they have a similar scale ratio ( $R$  and  $S$ ), they have similar eddy splitting pattern. In this way, the eddy radius and vertical depth can be arbitrary. As to background stratification, we did not discuss how it effects the behavior of eddy splitting. We think that ocean stratification is important like the other factors mentioned in the short comments. We will expand our study to explore those aspects in our next phase of the work.

(3) English writing needs significant improvement.

Reply: Thank you for your suggestions, we will do our best in the revised version.

Technical corrections

We will correct these in the revised version, many thanks.

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