

April 14, 2022

TO: Editors, Nonlinear Processes in Geophysics

FROM: Steve Ramp, Lead Author

RE: Response to second round of review: "Observations of shoaling internal wave transformation over a gentle slope in the South China Sea," by S. R. Ramp et al.

Thanks for the latest round of review and for taking a pro-active hand in this. You are correct that this review is a bit unusual.

1. Regarding "Essentially ignored my suggestions from the first revision," and "the authors didn't seem particularly interested in my feedback." Since I wrote a three-page point-by-point and included the marked-up manuscript, I cannot agree that I ignored the reviewer. I welcome good reviews and incorporated many of the reviewer's suggested changes.
2. There are also some very positive comments such as "the manuscript is relatively well-written," "contains some nice figures," and "there is nothing incorrect." These comments would all indicate a publishable manuscript. The reviewer apparently thinks it is not exciting. This is a matter of personal opinion. Other people may find it very exciting. I don't think that because one reviewer finds it not exciting is a reason not to publish.
3. The reviewer is apparently not enamored of a-waves vs. b-waves, although a large group of people have been trying to sort this out for some time. I already shortened this discussion considerably in the first revision, but the reviewer is correct that I am not willing to abandon this framework entirely. It is a useful construct for understanding the observations, most especially which wave packets were formed remotely via nonlinear steepening (a-waves) vs. locally via shoaling (b-waves).
4. As I look over the last round of reviews, the only thing I see where I might have "ignored" the reviewer is keeping Figures 5-7 in terms of temperature rather than displacement. I stated clearly why I did that. There are multiple ways to compute displacement from temperature fluctuations which all produce some outliers and slightly different results. I find it less ambiguous to present the actual data with no massaging. All the other figures were improved as suggested by the reviewers.

Note, it is important to remember the big picture. The really new and exciting thing to come out of this work is if/how the shoaling NLIWs and internal tides interact with the bottom to form the dunes, and once formed, how the rough bottom changes the characteristics of the incident NLIWs. Nobody has ever seen anything like Figure 2, which does not appear in any of the other papers coming out of the program, so I think it is important to get it out there. The second paper is to use the wave characteristics identified in this paper to address the sediment resuspension/dune formation process. Part II has been delayed for multiple reasons, but Karl Helfrich remains excited about it and is still trying to get it done. This paper is a necessary precursor to that one.

A version 3 is attached in which I have attempted one more tightening and clean-up. I found a few typos and clarified a few things, but the changes are small. I frankly didn't find much to improve upon for the paper in its present form. Thanks very much for considering our paper for publication in NPG. Please let me know if there is anything else that we need to do to move ahead.

Sincerely,

Steve