

The paper considers spatial evolution of a 3-wave unidirectional system in the presence of a current that is uniform in depth and varies slowly along the wave propagation direction. I agree with most comments made by reviewers 1 and 2, and believe that the manuscript may eventually be accepted, but only after substantial modifications are introduced.

It should be stressed in the manuscript that the 3-wave system analysis can only be relevant at the initial stages of evolution, as long as the sidebands are sufficiently small and thus no significant new harmonics are generated due to nonlinear near-resonant interactions. It is well known that addition of even a single new harmonic to an initially 3 wave system prevents exact Fermi-Pasta-Ulam recurrence. The FPU recurrence thus cannot be expected to occur in reality. Nevertheless, this simplified wave system may be useful if reservations regarding the limited validity of results are understood and clearly spelled out. As mentioned by the 2nd reviewer, the evolution of the 3-wave system beyond the initial exponential growth stage has been considered before. The main motivation for limiting the analysis to 3 waves only in those works was the availability of a closed analytical solution in the framework of the Zakharov equation (see the book by Mei et al., Stiassnie and Shemer 1987, 2005 and Shemer 2009). The possibility to apply similar analytical approach in the presence of the current should be examined and discussed in the paper. The current investigation considers spatial evolution, whereas the temporal variation was apparently studied in the earlier publications mentioned above. The advantages (if any) of the adopted approach also have to be discussed. The present formulation has the 3rd order accuracy and thus should not be essentially different from the Zakharov equation (at least in the absence of the current). The differences between the two formulations have to be clarified and an effort made to carry out quantitative comparison of results when possible.

The manuscript is prepared quite sloppily and some references (for example, Moreira and Peregrine, among others, or Hwung et al 2010) do not appear in the list.

I agree with the 1st reviewer that in essence narrow spectrum approximation is made. In addition to arguments in his review, it should be stressed that the group velocity used in the manuscript is only relevant for narrow-banded wave groups.

I failed to understand the small slope approximation on line 15 p. 1811.

The initial conditions in the simulations are not defined. As follows from the previous studies, the evolution pattern strongly depends not only on the frequencies of the sidebands, but also on their initial amplitudes and phases. I found no mention of these quantities in the manuscript, and subsequently there is no attempt to discuss their relative importance.

The dissipation due to breaking is introduced into the model equation. I share the criticism of the reviewers regarding the adopted model. The parameters used are not specified, and the important details of the dissipation model used in the simulations are missing. Moreover, I question the importance of dissipation in the framework of this study. The variation of the amplitude of various harmonics in the spectrum in the process of breaking was studied in some recent studies (see, e.g. Perlin et al. Ann. Rev. Fluid Mech. 2013 and references therein) and was found to be hardly detectable. As the details of the dissipation model are missing, it remains unclear to what extent accounting for dissipation in the present work indeed affects the results. On the other hand, even prior to breaking the 3-wave approximation adopted in the study apparently ceases to be even approximately valid, as new harmonics inevitably

emerge due to nonlinearity. This phenomenon most probably is much more significant than dissipation. It would be highly desirable to have some spectral information from experiments about the wave field, both as initially generated and at advanced stages of evolution. In any case, the relative significance of various factors that lead to poor agreement with available measurements has to be discussed.