

Interactive comment on “Laboratory study of non-linear wave-wave interactions of extreme focused waves in the nearshore zone” by Iskander Abroug et al.

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The paper under review is devoted to the experimental study of nonlinear interactions in the focused wave packet by using the wavelet bi-spectral analysis. This experiment continues a series of studies done by these authors with the investigation the nonlinear-dispersive mechanism of the rogue wave formation. In their experiments the authors used the wave trains with various spectra (Pierson-Moskowitz and JONSWAP) in intermediate depth. Strong nonlinear effects are observed on the sloping beach as it is expected. Nonlinear energy transfer in the high-frequency region is analyzed. In fact, such processes have been actively studied earlier, and, perhaps, the novel moment

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here is the demonstration of nonlinear effects through the bi-spectral analysis. To add to this, I would like the authors to formulate the obtained results in Conclusion better underlying their difference from the known results.

Being mostly a theoretician, I have two comments.

1. Equations (2) and (3) are written inaccurately. Function (3) does not contain tau and the parameter a.

2. For the wave focusing, it is necessary to vary the local frequency on the specific law for intermediate depth. I do not understand which formula for the local frequency versus time has been used. Perhaps, by using the optimal law, the focusing can occur on the flat bottom. If there is no specific focusing, there is an interference. Moreover, it should be reflected in the title.

To conclude, I may recommend the paper with the suggested revision.

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