

This paper provides very useful and necessary information to perform quantitative measurements in laboratory. The purpose and main advance of this paper is to present an alternative method based on colour segmentation to improve other laboratory measurement techniques. This method allows the possibility of better measuring the wave-breakwater interaction; that is, it picks up the water surface profiles and wave breaker types, as well as the runup processes.

The paper addresses an interesting topic for both researcher and engineers and results are presented very well. In particular, the methodology and results are shown in a very concise manner, with very clear plots and are properly organized. In the reviewer's opinion it is suitable for the Journal and it can be accepted for publication. However, the reviewer would like to make some general and specific comments to improve this work.

GENERAL COMMENTS

- (1) Although the results of this paper show an improvement in the image-based measurement technique, more research needs to be done on how to properly measure the turbulence and wave breaking on the breakwater slope with this method. I invite the authors to continue this research. It would also be interesting to use this method to measure the stability of the main armour layer (the eroded area).
- (2) The authors should also visualize more types of wave breaking and different wave conditions. The methodology of the paper does not cover a wide range of wave conditions.
- (3) I invite the authors to look at how the definition of the types of wave breaking has evolved and whether their method could measure this progression. Four new breaker types are identified (Díaz-Carrasco et al., 2020): weak plunging and strong plunging (Lakehal and Liovic, 2011) and weak bore and strong bore (Zhang and Liu, 2008). What criteria have the authors used to define the types of wave breaking?
- (4) Why did they do the trial with Core-Loc armour units?. It is more usual to do this kind of experiments with concrete cubes or rocks.

SPECIFIC COMMENTS

- (1) In general, the most commonly used term in breakwaters papers for this typology is rubble-mound or rubble mound.
- (2) Line 108-109: wave interaction with a rubblemound breakwater - involves all interaction: energy transformation, main armor stability, runup, etc. That is a confusing phrase, and it should be more specific.
- (3) Line 226: The section is "3.2" no "4.2".

- (4) Could you specify in the methodology the method you have used of separation to obtain the incident and reflected wave energy?