

Referee Report

Review comments

The reasons for choosing three design locations are not sufficiently clarified in the revised version too. Why are these three points good enough? Authors responded that there will be small variances, but it would be better to quantify this by comparing the results by adding additional points in the sequential design.

Also, it is still not clear that how these three points are representative locations for sequential design. How do these points represent all different bathymetry conditions in the test area? What are the depth and slope condition of three locations? The reason that it is near the center region is not enough. The results show that the Location 3 provided much larger Hmax than Location 1 and 2, but the results of Location 1 and 2 are too small.

We would like to thank the reviewer for their comments which help us to clarify the content of the manuscript. The sequential design approach uses one location to decide on the design, not three. The three locations are for illustration of the predictions to display variations in the outputs. We apologize for the lack of clarity and improved the paper accordingly in the text.

The referee is right that only one location chosen is driving the design. Our argument is that it is much better than zero, (which is often the case in conventional space filling designs, like Latin hypercube sampling), as justified in previous published studies. Evidently adding more locations could improve the design further, but some methodological statistical developments should be first established to decide on a strategy to actually benefit from using more points. Indeed, the design improvements are unlikely to be improved much with the addition of more points since the characteristics of the earthquake source are influencing all locations in a similar way as the parameterization is geographically wide. We improved the text accordingly.

We picked these 3 locations with depth nearly zero: one close to the design (#1), one further away from the design point (#2) but with elevation similar to #1, and #3 close to #1 but with a very different elevation. The referee is right that these outputs are different since we wanted to show some diversity and indeed are representative. More points would help show more variations, but would lengthen unnecessarily the paper. We explained and improved the text accordingly.