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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Study on the influence of seafloor soft soil layer on seismic ground motion" *by* Jingyan Lan et al.

Anonymous Referee #1

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The paper presents an interesting study related to the influence of seafloor soft soil and overlying sea water on ground motion. At present, most studies believe that water cannot propagate shear waves, and the influence of overlying sea water will not be considered in engineering seismic research. In this paper, it shows that the self-weight of overlying water has a significant effect on ground motion, so this paper has important scientific significance. However, it may be more meaningful to calculate and analyze the real undersea site instead of the artificial site models, which is of course a very difficult task. The article is well written, enjoyable to read and clear enough in the development of the subject. I found the manuscript interesting and worthy of publication in the NHESS journal.

I have just few minor further points. 1. In the line 67, the plane should be deleted. 2.

Figure 1 is not so clear, it would be better if the picture was changed to color. Especially the part of the sea water. 3. The spectral characteristics of the input acceleration time history should be supplemented in figure 2, such as Fourier spectrum, etc. 4. I am not very clear why the grid division in the calculation between P wave and SV wave is different, and there is no clear explanation in this paper.

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