

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1
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Comment on nhess-2022-200

Anonymous Referee #1

Referee comment on "The characteristics of the 2022 Tonga volcanic tsunami in the Pacific Ocean" by Gui Hu et al., Nat. Hazards Earth Syst. Sci. Discuss.,
<https://doi.org/10.5194/nhess-2022-200-RC1>, 2022

This is a well-written paper. The authors provide a comprehensive summary of the present studies of the 2022 Tonga tsunami, and also present their research results derived from careful analysis of massive records of tsunami data. The suggest that the tsunami data consist of four different components according to their periods due to different mechanisms. I think the current form is acceptable, except a few minor clarifications and editorial changes.

(1) 2.2 Tsunami Modeling:

JAGURS can consider secondary effects on tsunami propagation, e.g., Earth elasticity and seawater stratification. Did you include these effects in your simulations?

(2) Somewhere in the text the authors may emphasize that the DART data are actually pressure records, instead of direct water height. Thus, these records can be real pressure in Pascals if the signals are shock or Lamb waves. This is different as the coastal gauges are only water height.

(3)

Line 181: CL -> L:subscript

Line 207: delay -> delays

Line 235: exist -> exists