

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC3
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Reply on RC2

Takenori Shimozono

Author comment on "Tsunami propagation kernel and its applications" by Takenori Shimozono, Nat. Hazards Earth Syst. Sci. Discuss.,
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In my previous reply, I forgot to respond to a few minor comments by Reviewer #2. Here I would like to add my responses to them.

Comment: I think that the expressions for t_{pm} in the equation (24) are simply the two branches of some specific characteristic curves in the $(x; t)$ -plane. Indeed they may be cast in the following compact form: $x = [t - 2 - T(m-1)]^2$; where $T = 4$ is the time "period" that takes a signal to travel back and forth in the fluid region.

Reply: Thank you for the comment. I was not aware of the way of interpretation. I will add this viewpoint to the revised manuscript.

Comments: Equation (19). Here the author should point out that the damping factor has an upper limit. Specifically, it should be $\alpha < c_1$ where $c_1 \approx 2.405$ is the first real zero of the Bessel function J_0 .

Reply: I agree with the reviewer and will explain it in the revised manuscript.