

# ***Interactive comment on “A Study of Earthquake Recurrence based on a One-body Spring-slider Model in the Presence of Thermal-pressurized Slip-weakening Friction and Viscosity” by Jeen-Hwa Wang***

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Received and published: 27 February 2018

Response to the comments by Reviewer #1 Thank Reviewer #1 for very valuable comments on my manuscript. My answers to your comments are given below: 1. Among the physical models to approach earthquake faults, the single spring-slider model, which can represent a single fault, is actually the simplest one. However, based on this simple model in the presence of thermal-pressurized friction and viscosity we can obtain good simulations of earthquake recurrences along a single fault. Results can exhibit the frictional and viscous effects on earthquake recurrence.

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2. The statements “Because . . . “ in Line 239 will be re-written to be “Figures show that the maximum values of both  $V$  and  $U$  decrease from case (a) to case (d) in each figure. Hence, the maximum velocity and maximum displacement, which are denoted by  $V_{\max}$  and  $U_{\max}$ , respectively, for case (a) can be taken as the scaled factor to normalize the waveforms from case (a) to case (d). This makes us easily to compare the waveforms of the four cases in each figure.” 3. The statements to show the weak points of the single spring-slider model and the improvement on English writing for the manuscript will be made after I receive the comments by other reviewers.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-459/nhess-2017-459-AC1-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-459>, 2018.

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